ENVIRONMENTAL ASSESSMENT
and
"NATIONWIDE" SECTION 4(f) EVALUATION

CANYON FERRY ROAD
STPS 430-1(5)1; CN 4480

LEWIS AND CLARK COUNTY, MONTANA

This document is prepared in conformance with the *Montana Environmental Policy Act* (*MEPA)* requirements and contains the information required for an Environmental Assessment under the provisions of ARM 18.2.237(2) and 18.2.239. It is also prepared in conformance with the *National Environmental Policy Act* (*NEPA)* requirements for an Environmental Assessment under 23 CFR 771.119 and *Section 4(f)* of the *U.S. DEPARTMENT OF TRANSPORTATION Act* under 23 CFR771.135.

Submitted pursuant to: **42 U.S.C. 4332(2)(c), 49 U.S.C. 303** and **Sections 2-3-104, 75-1-201, M.C.A.**

by the

Montana Department of Transportation

and the

U.S. Department of Transportation, Federal Highway Administration

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I. Description of the Proposed Action

A. Introduction

The MONTANA DEPARTMENT OF TRANSPORTATION (MDT), in cooperation with Lewis & Clark County, plans to reconstruct 13.6 kilometers (km) or about 8.4 miles, of Montana Secondary Route 430 ("S-430") also known as Canyon Ferry Road. The project also involves limited work on Montana Secondary Route 284 (known as "S-284" or Spokane Creek Road) south of the intersection of these routes. The state's Secondary Highway System consists of over 7,578 km (4,709 miles) of transportation routes of regional and local importance.

The proposed reconstruction is being administered under a project designated by MDT as "Canyon Ferry Road" [Project Number STPS 430-1(5) 1, Control Number 4480]. If advanced, MDT would implement the proposed highway improvements under one or more construction projects depending on the availability of funding. For simplicity, references to "Canyon Ferry Road" in this document mean all portions of S-430 and S-284 included within the limits of this proposed project. References made to "Spokane Creek Road" mean the portion of S-284 located south of the intersection of S-430 and S-284.

MDT and Lewis and Clark County have proposed reconstructing Canyon Ferry Road due to the safety concerns associated with the design of the present roadway, its deteriorated condition, and the continuing increases in traffic on the road. There is also a desire to provide a traffic facility more compatible with the type of development that has and will likely occur along the route. The Canyon Ferry Road project is not intended to induce any new growth or development, but merely keep pace with the traffic generated, in part, by the growth that is already occurring and will occur with or without the improved roadway.

This Environmental Assessment (EA) addresses the potential environmental effects of improving Canyon Ferry Road. MDT, through the assistance of an engineering consultant, has initiated project development and preliminary design activities for this proposed project. This early project work is essential for determining the most appropriate design and location for the reconstructed road, identifying the actions and activities associated with reconstructing the highway, and for helping to predict the impacts of rebuilding this portion of Canyon Ferry Road.

References in this document to the "proposed project" or "proposed action" refer specifically to the improvements and activities associated with the Canyon Ferry Road project. Text references to the "project corridor" refer to the existing section of the Canyon Ferry Road highway and immediately adjacent lands affected by the proposed reconstruction.

B. Project Location, Length and Termini

Project Area Location. The project area occurs in the southeastern portion of Lewis and Clark County, Montana beginning about 1.6 km (1 mile) northeast of the corporate limits of the City of Helena. At its nearest location, the Town of East Helena is about 2.4 km (1.5 miles)

south of the proposed project. The general location of the project area in Montana and in Lewis and Clark County is shown in **FIGURE 1**.

The Canyon Ferry Road project corridor is located in Sections 13, 14, 15, 22, 23 and 24 of Township-10-North, Range-3-West, M.P.M. and Sections 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23 of Township-10-North, Range-2-West, M.P.M., and Section 18 of Township-10-North, Range-1-West, M.P.M.

The Canyon Ferry Road project corridor is comprised of two distinctly different areas of roadside development -- a residential/commercial section and a rural section. The residential/commercial section of the corridor, which extends from the project's beginning to Lake Helena Drive at RP 4.1, is located in generally level terrain and lands adjacent to the highway have been developed to a moderate density with numerous residential subdivisions, commercial establishments, and industrial uses. Major intersecting roads in this section include Wylie Drive, Valley Drive, and Lake Helena Drive.

The rural section (RP 4.1 to the project end) passes through rolling terrain with development consisting of scattered residences and farm and ranch land. A cluster of residences and a business exist near the intersection of Canyon Ferry Road and Spokane Creek Road. Other than Spokane Creek Road, the other major intersecting roads in this section include Diehl Drive/R Drive, Hart Lane, Eames Lane and Keir Lane. Holmberg Drive accesses a major rural subdivision in the rural section of the corridor.

Project Termini. MDT's proposed Canyon Ferry Road project begins at Reference Post (RP) 1.205 on S-430 near the City of Helena's water treatment plant and extends easterly for about 13.6 km (8.4 miles) to end near RP 9.6 east of the present intersection of Canyon Ferry Road and (Spokane Creek Road).

FIGURE 2 shows the specific sections of S-430 and S-284 proposed for reconstruction under the Canyon Ferry Road project. **PHOTO PLATES 1** and **2** show typical landscapes in the project area.

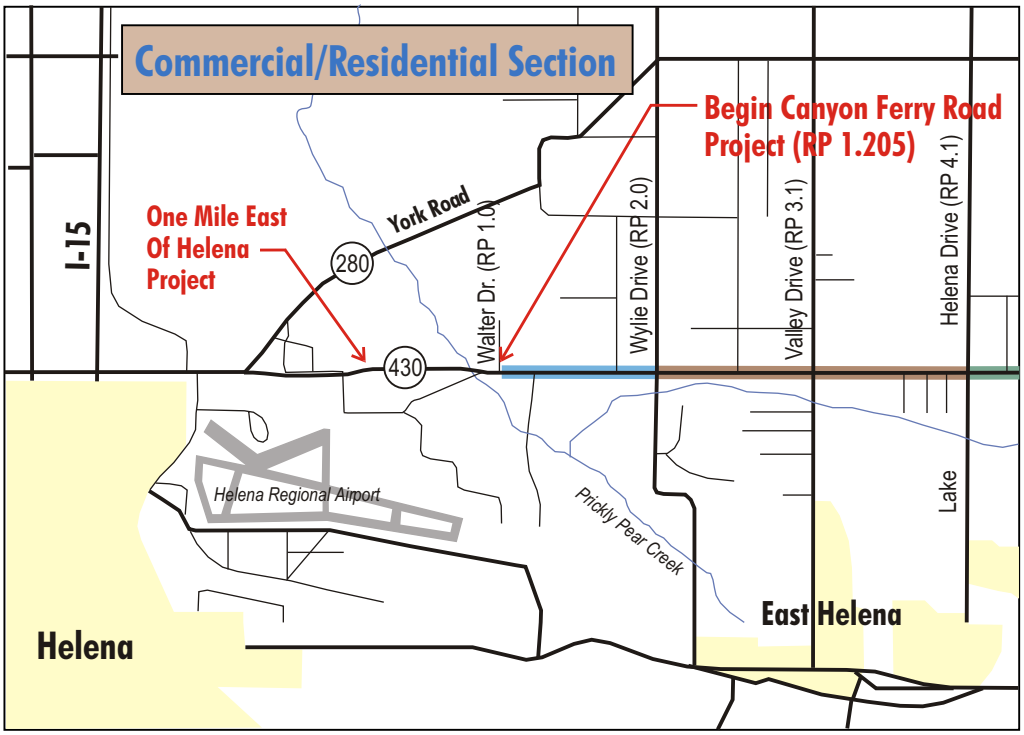
C. Scope of the Proposed Project

This project involves reconstructing the existing bituminous surfaced roadway to meet current MDT Road Design Standards for Rural Major Collectors.

In general, the proposed Canyon Ferry Road reconstruction project would: widen the existing 7.2 m (24-foot) two-lane facility to include new surfacing with wider shoulders and turn lanes at appropriate locations; improve the configurations and layouts of major intersections; and alter the road's grades and horizontal alignment to provide desirable sight distances. The project would be designed to meet all MDT standards for Rural Major Collectors with similar traffic volumes and design speeds.

Project STPS 430-1(5)1

Figure 1
Regional Location Map



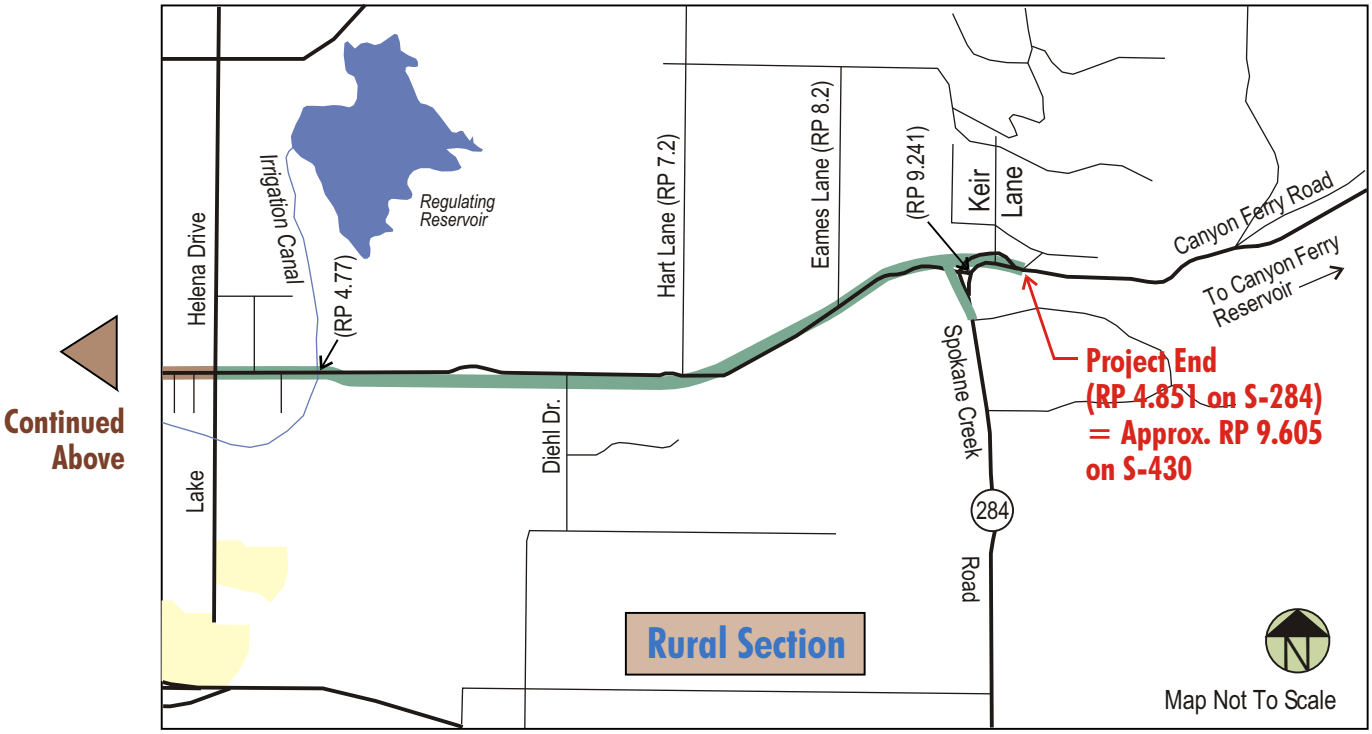


Figure 2
Project Area Map

The new alignment for Canyon Ferry Road would typically follow the existing road's alignment from the project's beginning to Lake Helena Drive. Curb and gutter and a storm water runoff collection system would be provided within the residential/commercial section of the project corridor between Wylie and Lake Helena Drives. The area behind the curb and gutter in this section would also graded, topsoiled and seeded. This would allow easy construction of sidewalks with minimal disturbances should these features be installed under a separate future project. Installation of a traffic signal is proposed at the Wylie Drive intersection. The Valley Drive intersection would be reconstructed to facilitate the installation of a future signal when warrants are met.

East of Lake Helena Drive, the new road would be reconstructed to a "rural" design with horizontal alignment shifts, flatter roadside slopes, and ditches along the highway. Sharp curves and the vertical alignment of the road in this area of Canyon Ferry Road would be modified to meet MDT's geometric design criteria. The intersection at Canyon Ferry Road with Spokane Creek Road would also be substantially reconfigured to improve safety.

The proposed project would include acquiring additional right-of-way for the highway, relocating conflicting utilities, clearing and grubbing, grading, surface drainage, plant mix surfacing, replacing existing bridges and culverts, signing and striping, seeding, fencing and other miscellaneous items.

The Canyon Ferry Road project would also include limited access control to help alleviate traffic conflicts, improve safety, and provide for more uniform traffic flows. Access control may involve adjusting approach locations for safer alignments, eliminating unnecessary approaches, and combining multiple approaches.

The Helena Valley Canal Bridge (located at RP 4.77, east of Lake Helena Drive), the "No Name" Spring Creek Bridge (located at RP 8.68), a dual culvert installation at Spokane Creek (RP 8.97), a small irrigation canal structure at about RP 2.1, and a cast-in-place concrete stockpass at RP 7.5 would be replaced with the proposed project. A bridge spanning the Helena Valley Canal near the east project terminus would also need replacement due to the proposed modifications at the Canyon Ferry Road/Spokane Creek Road intersection. New structures or pipes would be built on or near the alignments of the existing structures. Affected irrigation facilities would also be replaced under this project.

Additional details about the proposed improvements and alternatives considered are included in Part III of this document.

D. Project Funding

The proposed improvements would be financed under Montana's Surface Transportation Program Secondary (STPS) with funds from the Federal Highway Trust Fund. STPS funding is about 87 percent federal with a 13 percent state match. These funds are currently available through the *TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY* (TEA-21) and are administered by the FEDERAL HIGHWAY ADMINISTRATION (FHWA). TEA-21, enacted in June 1998, authorized the Federal surface transportation programs for highways, highway safety, and transit

for the six-year period from 1998-2003. Since TEA-21 will expire on September 30, 2003, funding for the Canyon Ferry Road project would come from a new authorization of surface transportation programs. The UNITED STATES DEPARTMENT OF TRANSPORTATION (DOT) is currently working with Congress, State and local officials, tribal governments, and others on the next six-year reauthorization of surface transportation programs. Should the project be split into two or more projects for implementation beyond the next six-year timeframe for reauthorization, some projects would likely be funded under other future authorizations of federal surface transportation programs.

Funding for Montana's Secondary highways are distributed based on a variety of factors including land area accessed, rural population served, and rural road mileage. The 1999 Legislature changed Montana's Secondary Highways Program to require counties in each of five Financial Districts to jointly develop and prioritize capital improvements programs. In the past, individual counties could prioritize projects within their jurisdiction. Lewis and Clark County nominated Canyon Ferry Road for reconstruction. In January 2000, the counties in the Great Falls Financial District established the Canyon Ferry Road project as priority number five of eleven projects under consideration for this district.

E. Jurisdiction

Maintenance of Canyon Ferry Road has historically been Lewis and Clark County's obligation. However, action by the 1999 Montana State Legislature shifted the maintenance responsibility for paved secondary highways from individual counties to MDT. The transition in maintenance responsibility for all paved Secondary Routes was completed by January 2001. MDT is now responsible for performing major maintenance activities on Canyon Ferry Road and within its dedicated right-of-way.

The Montana Highway Patrol and the Lewis and Clark County Sheriff's Department share the responsibility for law enforcement on Canyon Ferry Road and adjoining roadways.

Photo Plate 1

Looking west from near Walter Drive east of Prickly Pear Creek. This photo shows the recently completed "One Mile East of Helena" construction, which adjoins the beginning of the Canyon Ferry Road project.

Typical view of commercial/residential section of the Canyon Ferry Road corridor. The photo is taken looking westerly towards the intersection with Valley Drive. Numerous residential approaches and lack of turn lanes within this section contribute to vehicular conflicts. Note the proximity of utility poles to the existing road.

Photo Plate 2

Typical view of the "rural section" of the Canyon Ferry Road project corridor east of Lake Helena Drive. Lands adjoining the highway in this section have been developed with agricultural uses and scattered rural residences.

Looking easterly along Canyon Ferry Road near the eastern terminus of the project. This photo illustrates existing development along Canyon Ferry Road on the approach to the Spokane Creek Road intersection.

II. PURPOSE AND NEED FOR THE PROJECT

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A. Purpose

This section of the EA discusses the purpose of the proposed Canyon Ferry Road project and describes the transportation and other needs of the project area. These "needs" primarily relate to deficient conditions associated with the roadway and its features. The alternatives in Part III were developed in response to these transportation needs.

The Canyon Ferry Road project corridor has experienced high levels of growth over the last decade. Housing developments in the immediate area and to the east of the project has significantly increased traffic volumes on this road. The highway also serves as a primary route for accessing Canyon Ferry Reservoir, one of southwest Montana's premier recreation locations. MDT and Lewis and Clark County have proposed the total reconstruction of the route to improve the operation and safety of the facility and replace a deteriorating section of highway that is expensive and difficult to maintain.

Canyon Ferry Road immediately west of this proposed project was totally reconstructed under MDT's recently completed "One Mile East of Helena" project. The fundamental purpose of this proposed project is to upgrade the remaining portion of Canyon Ferry Road to provide for the safe and efficient movement of traffic. To accomplish this purpose, the proposed action must:

- incorporate physical changes to the roadway and its adjoining environment to increase the facility's efficiency, safety, comfort, and convenience for the traveling public;
- bring the road's design into compliance with MDT's design standards for Non-NHS Rural Major Collectors; and
- reduce maintenance requirements and costs associated with the deteriorating roadway, bridges and other drainage facilities on the route.

B. Transportation and Other Needs

This section identifies the transportation problems or concerns that already exist with the current transportation facility or that will exist if the proposed improvements are not implemented. These transportation "needs" focus primarily on traffic safety concerns and deficient or outdated conditions associated with the roadway and its bridges. The section begins with a brief history of the proposed project and a discussion of the roadway's function and use.

1. PROJECT HISTORY AND STATUS

The origins of Canyon Ferry Road trace back to the late 1860's. At that time, a road leading from Helena to French Bar on the Missouri River crossed the southeastern portion of the Helena Valley (including the general project area). Farmers and ranchers in this part of the Valley used the route to transport agricultural products to Helena residents. Over the years, Canyon Ferry

Road's present location was established and the facility continued to evolve into a more important local transportation route. However, the road primarily served as a "farm-to-market" route for rural residents until the construction of Canyon Ferry Dam in the 1950s. After completion of the dam in 1954, the function of Canyon Ferry Road began to change with the provision of new recreational opportunities at Canyon Ferry Reservoir and the development of seasonal residences on public land along the shores of the reservoir and on nearby private lands. Canyon Ferry Road became one of the principal ways for residents from the Helena area and other parts of western Montana to access this new public recreation resource.

The exact date of construction of Canyon Ferry Road is not known but the highway bridges within the project area date to 1958. Until the County completed a major improvement project in 1972, a significant portion of Canyon Ferry Road was typical gravel-surfaced rural road. The County's reconstruction project provided a 7.2 m (24-foot) wide bituminous surface over the entire length of the route.

Maintenance of Canyon Ferry Road was the County's responsibility until 2000, when MDT assumed maintenance responsibility for all paved secondary highways in the state from individual counties. Over the years, the County performed routine maintenance and patching on the route and replaced the bridge over Spokane Creek (RP 8.969) with a dual culvert but did not undertake any other major improvements between 1972 and the time when MDT assumed maintenance responsibility. MDT completed a thin-lift overlay project on the route from the project's beginning to Lake Helena Drive during 2000.

MDT has implemented several spot improvement projects to increase safety in identified accident clusters within the project corridor. No passing striping, delineation, and a flashing light were installed between RP 1.7 and 3.1 during August 1996 as part of project STPHS 002(167). Similar improvements were installed between RP 3.4 and 4.2 during June 1998 under STPHS 002(318). A flashing light was also installed at the intersection of Canyon Ferry Road and Lake Helena Drive during 2002.

Signs, guardrail, and bridge end treatments were installed during October 1993 between RP 7.6 and 8.2 under project STPHS 430-1(1) 0. MDT identified the section of Canyon Ferry Road between RP 7.3 and 7.7 as an accident cluster location in 2001. Reconstruction of the roadway was the recommended action for improving safety on this section of the route. Similarly, measures to improve safety at the Canyon Ferry Road/Spokane Creek Road intersection have been investigated but no major changes have been made at this corridor location. Problems at the Canyon Ferry Road/Spokane Creek Road intersection have not been previously remedied due to the high cost of reconfiguring the intersection and implementing other recommended treatments.

Efforts to improve Canyon Ferry Road (beyond typical maintenance activities) began in earnest with the completion of MDT's "One Mile East of Helena" project that reconstructed about 2.4 km (1.5 miles) of the route from the Canyon Ferry Road/York Road intersection to the beginning of this Canyon Ferry Road project. The "One Mile East of Helena" project increased the roadway width, improved the intersection with York Road, eliminated a dangerous set of horizontal curves and replaced a narrow bridge over Prickly Pear Creek.
Lewis and Clark County nominated this section of Canyon Ferry Road for reconstruction in 2000. After approval to proceed was received from the FHWA, a preliminary field review

attended by various staff from MDT and representatives of Lewis and Clark County occurred on July 21, 2000. A Preliminary Field Review Report summarizing existing conditions in the project area, identifying notable facility deficiencies, and outlining a proposed scope of work for the project was approved on August 24, 2000. In April 2001, work began to prepare the necessary environmental documents, develop preliminary design and right-of-way plans, and perform other necessary activities for the project.

2. FUNCTIONAL CLASSIFICATION

The roads comprising Montana's highway system are classified by the character of service (function) they provide. The functional classification system recognizes that each highway or street provides varying levels of access to property and travel mobility. Functional classification also provides the framework for determining the geometric design of individual highways and streets. Once the function of the highway is defined, the appropriate design controls, roadside safety elements, amenities, and other design values can be determined.

According to the STP Route Segment Plan in MDT's *Road Design Manual*, Canyon Ferry Road is classified as a Non-NHS-Secondary Rural Collector Road. Non-NHS-Secondary refers to Secondary Routes not on the National Highway System (NHS) in Montana. Collector routes are characterized by a roughly even distribution of their access to and from property and mobility function. In rural areas, collectors serve intra-regional needs, operate as farm-to-market roads, and provide connections to the arterial system. Canyon Ferry Road links Helena with outlying residential and agricultural areas north and east of the City and serves as one of two major roadway links between Helena and the Town of East Helena.

3. CURRENT AND PROJECTED ROAD USE

Road Use. Canyon Ferry Road is one of the major travel routes used by residents commuting between permanent or seasonal homes located in the east Helena Valley or along Canyon Ferry Reservoir and destinations within the City of Helena and the Town of East Helena. The importance of this road as a commuter route has increased over the years with continued rural residential development in outlying areas of the valley. During much of the year, this route also receives significant use by recreational traffic heading to sites along Canyon Ferry Reservoir and the Missouri River and within the Helena National Forest. Agriculture is still the dominant land use in much of the Helena Valley and Canyon Ferry Road serves as an important "farm-to-market" road for many agricultural operations.

The Helena area has steadily grown over the last several decades and should continue to see sustained residential and commercial growth. As development continues in the Helena Valley, the importance of Canyon Ferry Road in the overall transportation system of the area has and will increase. Improvements to the route are necessary to be responsive to the demands (and impacts) that have occurred since the road was originally built and the upgraded facility must be capable of meeting transportation needs over the next twenty or more years.

The proposed Canyon Ferry Road project may contribute to further growth and development

along the route by providing a route that would make commuting to and from Helena easier. While this is a possibility, there are too many other factors that promote growth to make accurate predictions within this document about where and when such growth may occur. The factors include items such as the general economy, land prices, tax levels and the existence of services, to name a few. Current land use planning policies of the County encourage new development to locate in areas like the project corridor where county services and infrastructure exist to better accommodate growth.

Current and Future Traffic Volumes. MDT's annual traffic counting program does not include the segment of Canyon Ferry Road proposed for reconstruction. In order to develop accurate traffic count information for this section of the route, traffic data information was used from the 1999 Montana Major Collector Study and from machine counts collected by MDT's design consultant during 2001. This data was collected and refined to provide accurate Average Daily Traffic (ADT) volumes for the different sections of Canyon Ferry Road. The current and future ADT volumes for various sections of the project corridor are presented in **TABLE 1**. Year 2024 traffic volumes for these same sections were projected based on a 3.3% annual growth factor for the road.

TABLE 1: Current and Future Traffic Volumes
Canyon Ferry Road (S-430) - RP 1.0 to RP 9.2

Location within Project Corridor	Current (2001) Average Daily Traffic Volume	Projected Year 2024 Average Daily Traffic Volume
West of Wylie Drive (RP 1.0 to RP 2.0)	6,000	12,600
East of Wylie Drive (RP 2.0 to RP 3.0)	6,100	12,900
East of Valley Drive (RP 3.0 to RP 4.0)	3,620	7,644
East of Lake Helena Drive	1,800	3,800
West of Spokane Creek Road	1,500	3,200

NOTE: Shading in Table 1 denotes locations within the "commercial/residential" section of the project corridor.

Other key characteristics of average traffic on this section of Canyon Ferry Road are listed below:

Design Hourly Volume (DHV)	830 vehicles per hour
Directional Distribution	55-45%
Percent Commercial Trucks	<3% of all vehicles

4. CURRENT AND FUTURE LEVEL OF SERVICE (LOS)

One of the major reasons for undertaking the proposed improvements to Canyon Ferry Road is to provide for the safe and efficient movement of traffic. To accomplish this, the proposed action must ensure an acceptable level of service (LOS) under anticipated future traffic conditions. In this instance, an acceptable level of service means that the proposed facility must operate at LOS C or higher under future traffic conditions.

The LOS represents the operating conditions that occur on a highway intersection or specific segment of the highway when accommodating various traffic volumes. Factors affecting LOS include speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and indirectly, safety. LOS analyses provide a qualitative measurement of operational conditions within the traffic stream and their perception by motorists and/or passengers.

Levels of service for different types of facilities are based on factors describing the quality of operation on the facility. For two-lane highways, average travel speed and the time delay are the primary measures of effectiveness considered in LOS analyses. The operating conditions of a highway are measured on the basis of six levels of service, designated as LOS A through LOS F by the *Highway Capacity Manual* (HCM). LOS A represents the best operating conditions (free-flowing traffic) and LOS F the worst operating conditions (low travel speeds with frequent delays). Levels of service for intersections are stated in terms of the average stopped delay per vehicle and is also categorized from LOS A to LOS F. Descriptions of operating conditions under various LOS categories are provided in **TABLE 2**.

TABLE 2: Level of Service (LOS) Descriptions

LOS Category	Description of Operating Conditions
LOS A	Free flow. LOS A represents high speed, smooth flow with little or no interference between vehicles.
LOS B	Lower speeds than LOS A, although flow is still good and little congestion exists. In urban areas, average over-all speeds drop due to intersection delay and vehicular conflicts.
LOS C	Lower speeds than LOS B, although flow is still good and little congestion exists. Operation is still stable with acceptable delays, but becoming more critical.
LOS D	Level D shows still lower speeds than previous levels. There is some congestion, and conditions become slightly unstable with respect to travel time and delay. The traffic flow is beginning to tax the capabilities of the street section. In urban and suburban areas, delays at intersections may be extensive with some cars waiting two or more cycles.
LOS E	The traffic flow is unstable, and the traffic volumes are at capacity. Any momentary stoppage may create an immediate and significant amount of congestion. Traffic is backed up continuously at intersection approaches.
LOS F	Level of service F is demonstrated by conditions of heavy congestion and stop-and-go traffic. All intersections are handling traffic in excess of capacity. Vehicular back-ups extend back from signalized intersections, through unsignalized intersections.

The existing and future LOS on Canyon Ferry Road was analyzed using current traffic data and projected traffic for the year 2024. MDT's design consultant followed procedures outlined in the Transportation Research Board's *Highway Capacity Manual (HCM) - Special Report 209* and

used the *Highway Capacity Software (HCS)* to complete the LOS evaluations for road segments and major intersections within the Canyon Ferry Road project corridor. The LOS analyses for intersections considered traffic volumes, turning movement data, the types of vehicles using the road, and geometric information for the current conditions and anticipated conditions in the year 2024.

Current and Future LOS for Roadway Segments. The LOS evaluations for the different roadway segments along Canyon Ferry Road showed that the roadway currently functions at LOS C in the commercial/residential section and LOS B in the rural section of the corridor. If improved as proposed under this project, the rural section of the project corridor would function at LOS B based on 2024 traffic conditions.

Current and Future LOS at Major Intersections. Due to the presence of numerous closely spaced intersections, it is not appropriate to use roadway segment analysis to estimate the future LOS within the commercial/residential section of the corridor. Instead, unsignalized intersection analyses were performed for all major intersections in this part of the corridor.

The unsignalized intersection analysis shows that all of the Canyon Ferry Road approaches at stop-controlled intersections within the corridor, with the exception of its approaches at Wylie Drive, currently operate at LOS A. All other stop-controlled side road approaches currently operate at LOS A or B, with the exception of Wylie Drive. The Wylie Drive approaches to Canyon Ferry Road currently operate at LOS C, which is considered acceptable by MDT for this type of facility.

Based on year 2024 traffic data and unsignalized conditions, the LOS is expected to decrease at most other intersections along the project corridor. The analysis showed that Wylie Drive's and Tizer Road's intersections with Canyon Ferry Road would operate at LOS F and LOS E, respectively, under peak-hour traffic conditions in the year 2024 if they continue to operate as unsignalized intersections. This poor level of service during peak hour traffic conditions suggests that traffic signals may be warranted at these locations. Future traffic signal needs at these and other major intersections in the corridor are discussed in the following section.

Traffic Signalization Needs. Warrants for traffic signals were reviewed at all intersections within the project corridor based on current and future traffic volumes. The warrant analysis was conducted using guidelines outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD). The MUTCD describes each of the eight warrants necessary to assess the need for intersection signalization. The warrants do not imply that a signal must be installed, but at least one of the warrants must be met before a signal can be considered.

The warrant analysis showed that the Wylie Drive intersection may satisfy the requirements for three of the eight warrants by the year 2024, with one of the warrants currently being met. An additional warrant would likely be met by the time the proposed project is ready for construction. The Valley Drive intersection may also meet three warrants by 2024. However, none of the warrants would likely be met for at least ten more years from now. Therefore, signal warrants would probably not be met until after the proposed Canyon Ferry Road project is built.

Although the LOS analysis predicts the Tizer Road approach to Canyon Ferry Road would

operate at LOS E by the year 2024, the intersection would be unlikely to meet any traffic signal warrants by that time.

Left Turn and Right Turn Lane Needs. Major intersections in the project corridor were also examined to determine the need for left and right turn lanes based on current and future traffic volumes. Using guidelines from MDT's "Road Design Manual" (*Figures 13.3C* and *13.3E, "Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways"*), it was determined that four intersections would justify left-turn lanes on the Canyon Ferry Road approaches by 2024. These intersections include Tizer Road, Baldy Drive, Dusty Maiden Drive, and Valley Drive.

None of the intersections studied have projected design-year traffic volumes that indicate the need for right-turn lanes.

A left turn lane for westbound motorists is considered prudent and was recommended on the east approach to the intersection of Canyon Ferry Road and Spokane Creek Road. The provision of a deceleration lane on this relatively steep downhill grade would and remove turning traffic (seasonally including many RV's and vehicles with camping or boat trailers) from through traffic on Canyon Ferry Road.

5. ROADWAY AND BRIDGE DEFICIENCIES

Consistent and predictable driving characteristics are important features of a safe and convenient road. Variances in the physical conditions of the road or inconsistencies in the way the road is designed can have a direct bearing on the overall safety of the roadway and the ability of motorists to negotiate the facility. **PHOTO PLATES 3** and **4** illustrate some of the existing problems and deficiencies within the Canyon Ferry Road project corridor.

The motorist's ability to see ahead is a primary consideration in the safe and efficient operation of a vehicle on a highway. Sharp curves around terrain features or over the crests of hills do not provide sufficient distance for a motorist to see an obstruction in the roadway and to stop if necessary. Such curves are said to lack adequate stopping sight distance. The AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) defines stopping sight distance as the length of roadway ahead visible to the driver.

The amount of stopping sight distance required depends mostly on the design speed (the selected speed used to determine the various geometric features of the roadway). The design speed is typically established based on the topography, anticipated operating speed, adjacent land use, and the functional classification of the highway. All of the pertinent features of the highway must be related to the design speed to obtain a balanced and sound design for the facility.

It should be noted that design speed **does not equal** the operating speed or running speed of vehicles on the roadway or the posted speed limit. According to AASHTO's *A Policy on Geometric Design of Highways and Streets*, the "operating speed" is the speed at which drivers are observed operating their vehicles. The "running speed" is the speed at which an individual

vehicle travels over a specified section of highway (i.e., a specified distance traveled divided by the time taken by the vehicle to travel the specified distance). Other than by state statute, the "posted speed limit" is established based on the results of a special engineering and traffic study to determine the speed at or below which 85 percent of all observed vehicles were traveling. The 85th percentile of the distribution of observed speeds is also the most frequently used measure of operating speed.

The appropriate design speeds for various functional classifications of roads in Montana have been established and are published in MDT's "Road Design Manual." Canyon Ferry Road is classified as a Non-NHS-Secondary Rural Collector Road. Appropriate design speeds for such roads range from 80 km/h (50 mph) to 100 km/h (60 mph) depending on terrain features.

Requirements for stopping sight distance length, as well as other geometric features such as horizontal and vertical curvature and superelevation (the degree of banking on curves), are directly related to and vary substantially with design speed. Highway designers strive to use as high a design speed as practicable to attain the desired degree of safety, mobility, and efficiency within the constraints of environmental quality, economics, aesthetics, and social impacts.

PRINCIPAL DESIGN CONTROLS

Canyon Ferry Road passes through level terrain in the commercial/residential section of the corridor to rolling terrain in the eastern and more rural portion of the project area. MDT's "Road Design Manual" states that appropriate design speeds for Rural Major Collectors are 100 km/h (60 mph) for roads in level terrain and 80 km/h (50 mph) for roads in rolling terrain. The existing posted speed limit is 90 km/h (55 mph) within the commercial/residential section and 100 km/h (60 mph) for most of the rural section with stretches of 70km/h (45 mph) near the intersection of Spokane Creek Road and areas with sharper horizontal curves.

Based on these considerations, MDT's design guidance indicates that a design speed of 100 km/h (60 mph) is appropriate for the commercial/residential section of the corridor. However, based on site constraints and a review of travel speed data, MDT determined that a 90 km/h (55 mph) design speed is appropriate for the commercial/residential section of Canyon Ferry Road. The appropriate design speed for the rural section of this project was established at 80 km/h (50 mph).

Controlling geometric standards for both 90 km/h (55 mph) and 80 km/h (50 mph) designs are as follows from Figure 12-5*: Geometric Design Criteria for Rural Collector Roads (Non-NHS - Secondary)* and Chapter 8 of MDT's "Road Design Manual"):

	90 km/h (55 mph)	**80 km/h (50 mph)**
Minimum Radii	305 m (1,000 feet)	230 m (755 feet)
Maximum Gradients	5% (level terrain)	7% (rolling terrain)

Photo Plate 3: Existing Road Conditions and Geometric Deficiencies

Photo Plate 3

Multiple utilities and steep roadsides adjacent to Canyon Ferry Road present hazards to motorists within the commercial/residential section of the project corridor.

Looking west down the steep approach of Canyon Ferry Road from the existing intersection of Spokane Creek Road. The existing layout, steep approach grade, roadside developments, terrain, and multiple approaches combine to make the existing intersection hazardous.

Photo Plate 4

View of Canyon Ferry Road approach to Spokane Creek Road Intersection near the eastern terminus of the project. The existing alignment closely follows the rolling terrain and contributes to limited sight distance.

This photograph of the existing (timber bridge) approaches across "No Name Spring Creek" near RP 8.7 shows the poor condition of the road surface, limited sight distance, and the steep roadside slopes.

	90 km/h (55 mph)	**80 km/h (50 mph)**
Minimum Passing Sight Distance	615 m (2,018 feet)	550 m (1,805 feet)
Desirable Stopping Sight Distance	170 m (558 feet)	140 m (459 feet)
Minimum Stopping Sight Distance	140 m (459 feet)	120 m (394 feet)

ROADWAY DEFICIENCIES AND ALIGNMENT IRREGULARITIES

Based on the geometric design criteria for Collector Roads (Non-NHS-Secondary) from MDT's "Road Design Manual" and the selected design speeds for this project, the following geometric deficiencies are evident.

Deficient Roadway Width. The existing roadway is currently only 7.2 m (24 feet) wide through the entire project area. According to MDT's geometric design criteria for Rural Collectors and current average daily traffic, the recommended minimum width for the reconstruction between the project's beginning and Lake Helena Drive is 12.0 m (40 feet). A roadway of this width would accommodate two 3.6 m (12 foot) wide travel lanes and two 2.4 m (8 foot) wide shoulders. The addition of any turn lanes within this section of the corridor would require additional width of up to 4.2 m (14 feet) to accommodate left turn lanes, two-way left turn lanes and striped medians or transitions between each. Therefore, the minimum standard roadway width for the commercial/residential section of Canyon Ferry Road would be 12.0 m (40 feet) or 16.2 m (54 feet) with the inclusion of turn lanes. Because of recognized site constraints, MDT is considering shoulders with widths of 1.8 to 2.1 m (6 to 7 foot) from the edge of the travel lane to the face of curb between Wylie Drive and Lake Helena Drive.

MDT's geometric design criteria for the rural section of the corridor (east of Lake Helena Drive) indicates that the roadway should be at least 9.6 m (32 feet) wide based on current traffic volumes. A roadway of this width would accommodate two 3.6 m (12 foot) wide travel lanes and two 1.2 m (4 foot) wide shoulders. If future (design year) traffic volumes are considered, the minimum required roadway width for the rural section of the corridor increases to 12.0 m (40 feet). The increased width would allow for the provision of 2.4 m (8 foot) wide shoulders.

Horizontal Alignment. The controlling geometric design criteria listed above were used to evaluate the existing road's alignment. Preliminary engineering analyses determined that the existing horizontal alignment of Canyon Ferry Road west of Spokane Creek Road is generally acceptable. The existing highway alignment through the commercial/residential section is nearly tangent (straight) with a few only slight deflections from tangent. Horizontal curves within the rural section near RP 7.3, RP 8.1, and RP 8.6 are not adequate for the applicable design criteria.

Vertical Alignment. The existing vertical alignment is adequate from the project's beginning to about RP 5.0 where the road encounters rolling terrain. Sight distance is substandard at most vertical curves east of RP 5.0 since the existing road closely follows the hilly terrain.

The project encounters a long grade between RP 4.6 and 6.0. The steepest grade in this segment is about 10 percent, which exceeds the maximum design gradient of 7 percent. The project includes another grade from RP 6.8 to 7.1, which is approximately 6 percent. Canyon Ferry Road intersects Spokane Creek Road on a short, relatively steep grade.

Intersection Geometrics. Most of the intersections along the commercial/residential portion of the project are simple in design and located on flat terrain. Most existing intersections have "T" or four-leg configurations. Geometric problems are apparent at the intersection of Canyon Ferry Road and Wylie Drive, particularly for large trucks with trailers. Eastbound traffic on Canyon Ferry Road stopped at Wylie Drive may occasionally have to stop well short of the stop line or have to back up to allow large trucks with trailers to turn west onto Canyon Ferry Road from Wylie Drive. Reconstruction of the intersection with larger radii in each quadrant of the intersection is necessary to alleviate this undesirable geometric and operating condition at Canyon Ferry Road and Wylie Drive.

The intersection of Canyon Ferry Road and Spokane Creek Road in the rural segment is located on a curve, has steep grades on all approaches and sight distance restrictions due to its skewed configuration. The intersection is currently configured with Spokane Creek Road as the major through road requiring the predominant eastbound traffic on Canyon Ferry Road to stop. Eastbound motorists have minimal room to stop at the intersection.

Studies indicate that 70 percent of all traffic passing through the Canyon Ferry Road/Spokane Creek Road intersection turn from or onto Canyon Ferry Road. This traffic pattern indicates a need to reconfigure the intersection so that the major traffic movement would be given preference and would not be required to turn or stop.

BRIDGE DEFICIENCIES

MDT periodically conducts detailed evaluations of the condition of bridges on the state highway system and on many off-system roads. The evaluations are used to develop a Sufficiency Rating to measure the condition of each bridge. The Sufficiency Rating is a composite of several ratings of individual bridge items that consider the structural condition and geometry of the bridge. A bridge with a low rating on structural items will be designated as "structurally deficient" and a bridge with a poor rating for geometry items will be designated as "functionally obsolete." Sufficiency Ratings are based on a 100-point scale.

The Canyon Ferry Road project contains three bridges that are proposed for replacement with either new structures or large diameter culverts due to their deteriorated physical condition, lack of adequate deck width or incompatibility with the proposed road design's horizontal or vertical features. The locations, bridge types, date of construction, and Sufficiency Ratings for these bridges are listed in **TABLE 3.**

The Helena Valley Canal Bridge at RP 4.77 is considered to be functionally obsolete and eligible for rehabilitation by MDT's Bridge Bureau based on the results of the structure's inspections in August 2002. The bridge at RP 4.77 would also not meet proposed road elevations or accommodate the proposed roadway width of 12.0 m (40 feet) for the rural section of the project corridor.

The load limit for bridges in the project area should be 36-tons. MDT's Bridge Bureau rated the load-carrying capacity of the bridge at RP 8.68 ("No Name" Spring Creek) at 15-tons. The bridge at "No Name"" Spring Creek has undergone at least one temporary fix by MDT maintenance crews to protect its structural load carrying capacity. Prior to this project's

nomination, MDT had proposed to replace the bridge with a large culvert. Because of the low load rating, any larger-than-normal truckloads could be at risk crossing this bridge. Additionally, the bridge at "No Name"" Spring Creek cannot accommodate the proposed 12.0 m (40 feet) wide roadway.

TABLE 3: Bridge Locations, Types, and Sufficiency Ratings Canyon Ferry Road

Location (RP) MDT Bridge No.	Bridge Length and Roadway Width	Structure Type	Date Built	Sufficiency Rating*
Helena Valley Canal (RP 4.77) S00430004+07731	13.41 m x 7.35 m (44 feet x 24.1 feet)	Two-span timber	1958	68.8
"No Name" Spring Creek (RP 8.68) S00430008+07951	5.57 m x 7.70 m (18 feet x 25.3 feet)	Single-span timber	1958	64.2
Helena Valley Canal (RP 4.70**) S00284004+07001	21.94 m x 9.39 m (72 feet x 30.8 feet)	Three-span timber	1958	72.9

* Rating based on results of inspection during April and August 2002.
** Bridge location referenced to Spokane Creek Road (Secondary Route 284).

Another bridge crossing the Helena Valley Canal (at RP 4.70 on Spokane Creek Road) would need to be replaced due to its inadequate width and the inability to incorporate the structure and its approaches into the proposed reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection and transition to the existing highway at the eastern project terminus.

The location of bridges and major irrigation structures along Canyon Ferry Road are shown in **FIGURE 7** in Part IV of the EA.

6. ROAD CONDITION

The surfacing of Canyon Ferry Road varies considerably over the length of the project due to manner in which the road was originally built and later improved. Testing shows that the road's surface consists of bituminous surfacing material ranging in thickness from 15 millimeters (mm), or about 0.5 inches, to 110 mm (4.3 inches) over gravel base material ranging from 50 mm (2 inches) to 255 mm (10 inches) in thickness.

Overall, the existing road surface is in poor condition and exhibits many forms of pavement distress (such as raveling, bleeding, pot holes, rutting, and various types of surface cracking) that affect the quality of the riding surface. Most of the existing highway within the project corridor has not received any major work, except for localized maintenance activities, since 1972. However, MDT completed a large overlay project on the highway from the beginning of the proposed Canyon Ferry Road project to Lake Helena Drive in 2000.

MDT annually collects data on pavement condition and rates the roughness of pavements on the state road system. MDT uses the Average Ride Index (ARI), a measurement of pavement roughness, as an indicator of pavement performance factors like driving comfort, vehicle operating cost, and safety. The ARI is a 0 to 100 scale that represents the ride quality of the pavement. The ARI scale values ranging from 80 to 100 indicate "Good" ride quality and values from 60 to 79.9 indicate "Fair" ride quality. ARI values of less than 59.9 suggest the ride quality of the pavement is "Poor."

MDT's most recent (July 25, 2002) ARI for Canyon Ferry Road between RP 1.0 and 9.2 was 68, suggesting the road's pavement has a fair ride quality. This higher than expected rating is due to the fact that a major portion of the roadway was overlaid in 2000.

C. Safety

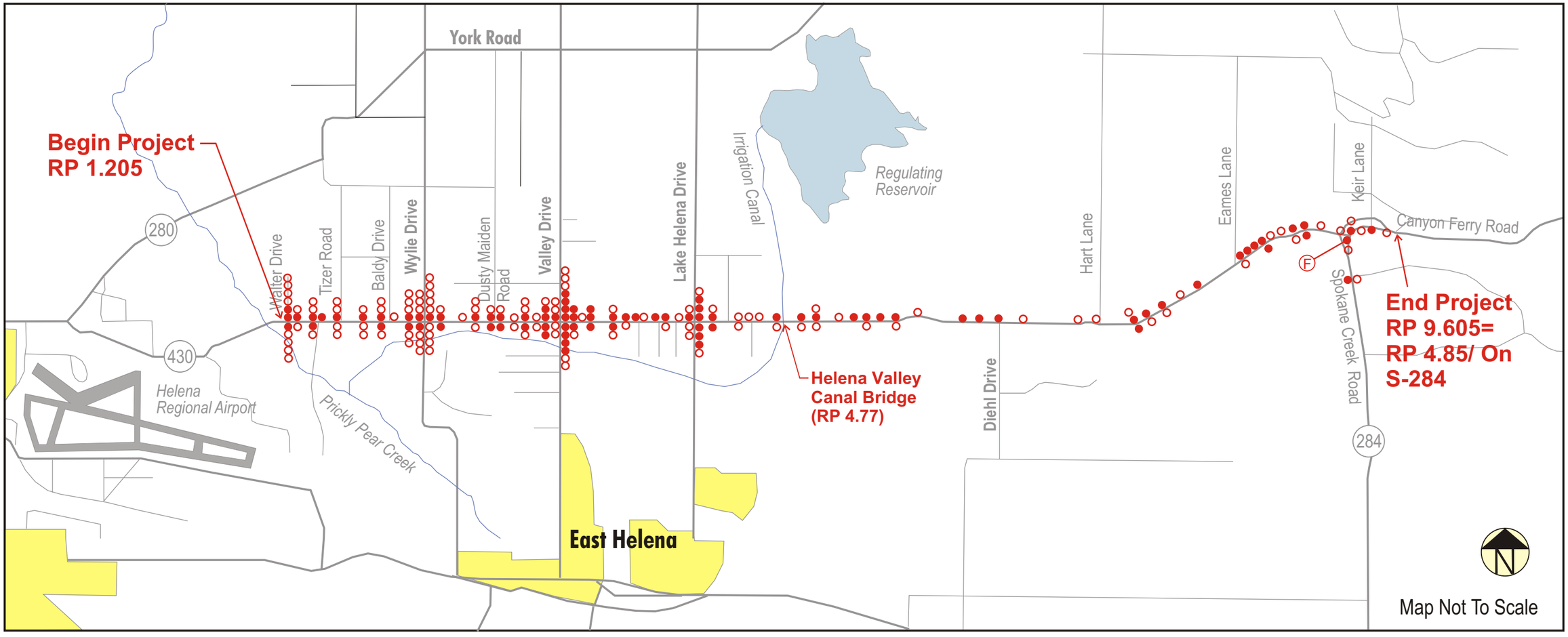
1. ACCIDENT HISTORY OF THE PROJECT CORRIDOR

Information about past motor vehicle accidents on Canyon Ferry Road was reviewed to identify long-term accident patterns and characteristics. Data from the Safety Management System, the State's computerized accident recording system, provides information on the type, frequency, location and severity of each reported crash within the project area. For this evaluation, the accident history from October 1, 1991 to September 30, 2001 was reviewed for the Canyon Ferry Road corridor between RP 1.00 and 9.241 and in the vicinity of Canyon Ferry Road's intersection with Spokane Creek Road.

The accident data revealed that a total of 200 accidents, including one fatal crash and 85 crashes that produced injuries, were investigated within the Canyon Ferry Road project corridor during the specified period. A total of 148 accidents were investigated in the commercial/residential section (between RP 1.00 to 4.200) and 52 accidents were reported in the rural section (between RP 4.201 to 9.241). Five additional accidents occurred along Spokane Creek Road within about 0.8 km (0.5 miles) distance of the Canyon Ferry Road intersection. Please note that other fatal, injury and property damage accidents have occurred within the project corridor since the end of the ten-year accident study period ending in September 2001.

TABLE 4 summarizes the major accident types and severity characteristics for the crashes that were investigated on the route during the ten-year accident study period. **FIGURE 3** shows the generalized locations of reported motor vehicle accidents during the study period on Canyon Ferry Road and on Spokane Creek Road in the vicinity of the intersection of these routes.

As the **TABLE 4** shows, the ten-year accident rate for the commercial/residential and the rural sections of the Canyon Ferry Road Study Area were 5.64 accidents per million vehicle miles of travel (ACC/MVMT) and 1.46 ACC.MVMT, respectively. These rates compare to a statewide average accident rate of 1.77 ACC/MVMT for all rural Secondary Roads. The accident rate in the commercial/residential section of the project corridor is nearly 3.2 times higher than the statewide average for all rural Secondary Roads. The accident rate within the rural section of the



- Property Damage Only
- Injury Accident (includes incapacitating, non-incapacitating and possible injury accidents)
- F — Fatal Accident

Figure 3:
Accident History Map
October 1, 1991 thru September 30, 2001
RP 1.205 to RP 9.605

corridor is slightly below the statewide average accident rate for all rural Secondary Roads.

The *severity index* and *severity rate* presented in **TABLE 4** are statistics commonly used by MDT as measures of the overall severity of accidents on a road segment or route based on the number and degree of injuries recorded during a given time period.

TABLE 4: Accident Summary (1991-2001)
Canyon Ferry Road Corridor (RP 1.000 to RP 9.241)

	Residential/Commercial Section (RP 1.00 to 4.20)	Rural Section (RP 4.201 to 9.241)
Total Number of Accidents	148	52
Number of Fatal Accidents (# fatalities)	0(0)	1 (1)
Number of Injury Accidents (# injuries)	62 (114)	23 (29)
Number of Property Damage Only (PDO) Accidents	86	28
Accident Rate (All Vehicles)	5.64	1.46
Severity Rate	13.42	3.65
Severity Index	2.38	2.50

Notes: "Injury" accidents include those crashes with incapacitating, non-incapacitating, and other injuries.
Statistics based on accidents that occurred on route from October 1, 1991 to September 30, 2001.

The severity index is a ratio of crashes weighted by severity to the total number of crashes and is expressed by the following formula.

$$\textbf{Severity Index} = \frac{8(\#\text{ of }\mathbf{K}+\mathbf{A}\text{ crashes}) + 3(\#\text{ of }\mathbf{B}+\mathbf{C}\text{ crashes}) + 1(\#\text{ of }\mathbf{O}\text{ crashes})}{\text{Total \# of crashes}}$$

K = crash with fatality **A** = crash with incapacitating injury **B** = crash with non-incapacitating injury
C = crash with possible injury **O** = crash with property damage only

The severity rate is the number of crashes weighted by severity per million vehicle miles. The severity rate is calculated by multiplying the accident crash rate times the severity index.

The accident severity indices for the commercial/residential and the rural section of Canyon Ferry Road were calculated to be 2.38 and 2.50, respectively. These figures compare closely to the statewide average accident severity index of 2.44 for all rural Secondary Roads in Montana. The severity rates for the commercial/residential and the rural section of Canyon Ferry Road were calculated to be 13.42 and 3.65, respectively, for the 1991-2001 period. These figures compare to a statewide average severity rate of 4.31 for state rural Secondary roads. The severity rate for the commercial/residential section is more than three times greater than the statewide average severity rate.
A review of the characteristics and contributing factors to motor vehicle accidents occurring

within the Canyon Ferry Road project corridor during a the ten-year study period identified the following variations from average statewide occurrences for all rural secondary routes:

Canyon Ferry Road - Commercial Residential Section (RP 1.0 to RP 4.2)

- 73.7% on roadway accidents vs. 47.7% statewide.
- 82.4% dry road accidents vs. 65.1% statewide.
- 67.6% daylight accidents vs. 52.5% statewide.
- 24.3% rear-end collisions vs. 7.9% statewide.
- 31.1% right-angle collisions vs. 9.7% statewide.

Canyon Ferry Road - Rural Section (RP 4.201 to RP 9.241)

- 28.9% icy road collisions vs. 18.4% statewide.
- 19.2% rear-end collisions vs. 7.9% statewide.

A review of the accident data also revealed the following:

- Alcohol was a factor in 7 percent of all the reported accidents on Canyon Ferry Road over the 1991 through 2001 period.

- Five percent of the recorded accidents during the study period involved domestic or wild animals.

Along the commercial/residential section of Canyon Ferry Road (RP 1.000 to 4.200), the accident trend is collisions between moving vehicles. Of the 148 recorded crashes in this section, 100 (67.6%) were coded as "in intersection", "intersection related", "in driveway access" or "driveway related." In 58 of the 148 recorded accidents in this section of the project area, at least one of the vehicles intended to turn. Based on the data, the greatest concentration of intersection-related accidents occurred at the intersection of Canyon Ferry Road and Valley Drive. Of the 27 accidents that were reported at this location during the 1991-2001 period, 19 were right-angle collisions, 3 were rear-end collisions, and 2 were sideswipes. One accident involved a collision between a motorist and bicyclist.

Within the rural section of the project corridor, accident data reveals a concentration of off-road crashes at the curve near reference post 7.4. Additionally, the data shows a concentration of crashes near and at the intersection with Spokane Creek Road at the east end of the project, including a fatal crash.

The road widening, improved sight distance, slope flattening, provision of turn lanes, access management, lighting and delineation, and intersection reconfigurations associated with this proposed highway improvement project should substantially improve traffic safety in the Canyon Ferry Road corridor.

D. Legislation Mandating Action

The 56th Montana Legislature made major changes to Montana's Secondary Highway Program during the 1999 session. The signing of Senate Bill 333 into law changed the long-standing Secondary Program and required MDT to assume maintenance responsibility for all paved Secondary Routes. Some Secondary Roads that are either gravel or not sufficiently paved do not fall under the maintenance directive from the Legislature.

MDT's newly delegated maintenance responsibilities on Secondary Routes like Canyon Ferry Road includes: winter maintenance, pavement maintenance, striping and signing, the maintenance of safety devices, and maintenance of drainage and roadside activities. This means MDT is obligated to maintain, preserve and enhance (if needed) the roadway and associated facilities to ensure continued and safe use by the traveling public. Even if improvements were not proposed or being investigated for Canyon Ferry Road, MDT is obligated to ensure that travel on the route can be accomplished in a safe and efficient manner.

E. Overall Conclusions on Need

The existing roadway and bridges have many physical deficiencies that contribute to reduced safety for users of Canyon Ferry Road. Several of these deficiencies are related to the roadway's original design and can be corrected only through reconstruction.

Reconstructing this segment of Canyon Ferry Road would substantially improve safety by bringing the design of the highway into compliance with MDT's current design standards for Rural Major Collectors with design speeds of 90 km/h (55 mph) for the road's commercial/residential section and 80 km/h (50 mph) for its rural section. The width of the roadway's surface would increase from 7.2 m (24 feet) to at least 12.0 m (40 feet) to include shoulders. Desirable stopping sight distance would be provided at substandard vertical curves and deficient horizontal curves would be rebuilt to meet the criteria for the design speed. The new bridges associated with this proposed action would be wider than existing structures and have increased load carrying capacities.

Many of the road's intersections would be redesigned to accommodate left-turn lanes to help keep traffic flowing and enhance safety. Other safety enhancements for the project include widened shoulders for the occasional bicyclists and continued roadside mail delivery on the route; the addition of roadway lighting at major intersections; a traffic signal at Wylie Drive; flashing beacons, transverse rumble strips on major intersecting road approaches; shoulder rumble strips in the rural segments; and appropriate signing and delineation throughout the project corridor.

III. ALTERNATIVES CONSIDERED

III. Alternatives Considered

A. Introduction

This Part describes the alternatives considered to address the transportation and other needs identified in Part II. Alternatives are the various activities or actions that could be implemented by MDT to meet the purpose and the need for improving Canyon Ferry Road between RP 1.2 and RP 9.6 and improving a portion of Spokane Creek Road near the east terminus of this proposed project.

As indicated earlier in this EA, MDT's Canyon Ferry Road project would reconstruct 13.6 km (8.4 miles) of S-430 and a portion of Spokane Creek Road (S-284) near its intersection with Canyon Ferry Road. A variety of preliminary engineering activities and studies have been completed to establish the use and condition of the existing facility and to evaluate how the present road complies with MDT's design standards for Rural Collectors with design speeds of 80 km/h (50 mph) and 90 km/h (55 mph). The "action" alternatives considered for this proposed project are comprised of actions to eliminate deteriorated conditions and replace substandard road features; enhance the overall safety and efficiency of the highway; and measures to ensure the reconstructed highway is responsive to its current and future roadside environment and uses.

This Part describes the proposed improvements that comprise the Preferred Action. The "Preferred Action" is the alternative that MDT believes would best meet the purpose and need for the project, giving consideration to economic, environmental, technical factors, and public sentiment. This Part also identifies other alternatives initially considered by MDT for the Canyon Ferry Road reconstruction project and discloses reasons for the rejection of such alternatives.

The alternative of taking no action to improve Canyon Ferry Road is also considered here. The No Action alternative does not meet the purpose and need for the project as described in Part II and has been rejected from further consideration. The No Action alternative does, however, provide a baseline against which the Preferred Action (or other alternatives) can be compared. The environmental effects of the No Action alternative will be discussed in Part IV as a means of comparing and contrasting the impacts of MDT's Preferred Action.

B. No Action Alternative

The No Build alternative (also known as the "do nothing" alternative) involves taking no major action to improve or change Canyon Ferry Road. MDT would maintain and repair the road and its associated features as needed (and as economically feasible) to ensure continued public use.

However, this alternative would not improve the horizontal or vertical alignment of the highway, increase the width of the roadway, replace substandard bridges, or include any measures to respond to identified traffic safety or operational concerns. The geometric layout and sight

distance problems at the intersection of Canyon Ferry Road and Spokane Creek Road would not be addressed. The highway would continue to be substandard based on MDT's geometric design criteria for Non-NHS Secondary Rural Collector Roads for the amount of traffic using the route.

As the condition and operation of Canyon Ferry Road continue to deteriorate, it will become increasingly difficult for its users to reach their homes, places of business or recreational areas served by the road. Taking no action may affect the safety of the traveling public due to increased traffic on a route with deteriorated road conditions and inherent geometric design deficiencies.

Drivers may indirectly incur other costs with the No Build Alternative, including automobile damage or more frequent maintenance due to poor road conditions, travel delays and increased fuel consumption because of traffic congestion, and damages (costs associated with property damage and personal injuries) if accident numbers or severities rise.

The remaining costs associated with this alternative would be those associated with implementing maintenance activities and repairing the roadway and its associated features. Other than minor, temporary and localized adverse environmental effects, the No Build Alternative would not cause any new impacts to the surrounding environment. There would be no new impacts on adjacent commercial or residential properties or agricultural lands since this alternative would not change access to adjoining lands or require the acquisition of any new right-of-way.

C. Preferred Action/Associated Improvements

1. OVERVIEW

The Preferred Action is to reconstruct Canyon Ferry Road from about RP 1.2, Walter Drive, to just east of the intersection of Canyon Ferry Road and Spokane Creek Road at about RP 9.6. Transitions to and from existing roadways east and west of the project area would be required. The proposed reconstruction project would widen the existing two-lane facility to include paved shoulders, turn lanes where appropriate, improve the geometric layouts of major intersections and alter the road's grade and alignment to provide desirable sight distances throughout the project corridor. Reconstruction of Canyon Ferry Road would require development of detailed design and right-of-way plans and the preparation of an access control plan for the project area.

Montana highways and bridges are designed to meet or exceed recommended minimum geometric standards. These geometric standards are based on design policies and guidelines established by MDT and AASHTO. MDT would develop and design the highway improvements to conform to MDT's "Road Design Manual" and "Bridge Design Standards" and AASHTO's Standard Specifications.

Site preparation work would include right-of-way acquisition, utility relocation, and clearing and grading. Drainage structures with adequate roadside ditches to accommodate runoff from the roadway would be installed and slopes would be stabilized and revegetated. Curbs and gutters

would be installed along the roadway within the commercial/residential section of the corridor and minimal width ditches would typically be provided adjacent to the highway to convey runoff in the rural section of the corridor. New fences would be installed throughout the rural section of the corridor at new right-of-way limits.

New right-of-way would be acquired over the length of the project and conflicting utilities would be relocated. Reconstruction of the Canyon Ferry Road/Spokane Creek Road intersection would also require the relocation of residents from four homes and possibly one mobile home adjacent to the existing road.

The existing bridges over the Helena Valley Canal (at RP 4.77 on Canyon Ferry Road and at RP 4.70 on Spokane Creek Road) would be replaced with new structures and the present bridge at "No Name" Spring Creek (RP 8.68) would be removed and replaced by a large diameter culvert. These new structures and pipe installations would accommodate a wider roadway. The existing double culvert installation at Spokane Creek would also be replaced due to the proposed offset alignment.

Advisory and regulatory signs, as well as appropriate pavement markings would be installed according to standards outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD). Guardrail would be placed in locations warranted by the presences of roadside obstacles or steep slope conditions.

Estimated current construction costs for the proposed Canyon Ferry Road project would total about $9.6 million, including traffic control during construction and construction engineering. Due to the cost of the project and the limited availability of funding, rebuilding the entire project at once is unlikely. Therefore, MDT would implement this reconstruction proposal under two or more projects. However, the necessary additional right-of-way and associated access management for the entire Canyon Ferry Road corridor would be secured under one project. Continued use of the existing highway corridor and appropriate signing, flagging and detours would be used to minimize delays and inconveniences for highway users during construction.

2. DESIGN SPEED/POSTED SPEED LIMITS

Horizontal and vertical alignments as well as all other design features for Canyon Ferry Road within the commercial/residential section of the corridor would be designed to meet the criteria for a design speed of 90 km/h (55 mph) which is consistent with the classification of a Rural Collector road in level terrain and yet recognizes the level of roadside development in this portion of the corridor. From just east of Lake Helena Drive to the project end, the new road would be designed as a Rural Collector in rolling terrain using an 80 km/h (50 mph) design speed.

The posted speed limit for Canyon Ferry Road is typically 90 or 100 km/h (55 or 60 mph) with stretches of 70 km/h (45 mph) posted near the eastern end of the route. The current posted speed limits in the project area would remain unchanged with the Preferred Action; however, the horizontal curves posted for 70 km/h (45 mph) would be reconstructed to provide consistency with the selected design speed in the rural section. Lewis and Clark County could ask MDT to

conduct an engineering investigation of travel speeds after reconstruction project is completed to determine if posted speed limits for Canyon Ferry Road should be revised based on the speeds at which motorists drive on the newly constructed facility.

3. HORIZONTAL AND VERTICAL ALIGNMENTS

Horizontal Alignment. Canyon Ferry Road would be designed to follow the existing horizontal alignment as much as possible to minimize the need for new right-of-way and avoid impacts to adjoining developed properties. The proposed new centerline of Canyon Ferry Road would closely follow the existing roadway's centerline from the project's beginning to about the Helena Valley Canal bridge (RP 4.77) where a long set of reverse curves would be introduced to shift the proposed alignment south of the existing highway.

From about RP 5.0 easterly to about RP 7.25 (near Hart Lane) the new alignment would generally be parallel to but offset from the existing centerline of the road by some 16 to 26m (52 to 85 feet). East of Hart Lane, the existing horizontal curve would be flattened and the new road would shift to the north side of the existing alignment. The proposed centerline would be about 11.4 m (37 feet) north of and parallel to the existing alignment to near Eames Lane (RP 8.2) at which the new alignment would nearly cross over the existing roadway. East of Eames Lane, the new alignment of Canyon Ferry Road would be modified to flatten horizontal curves and accommodate the proposed reconfiguration of the route's intersection with Spokane Creek Road.

Realignments of the road have been proposed for parts of the highway in the rural section to eliminate substandard geometric features, reduce traffic control needs and conflicts between motorists, and maintain traffic during the route's reconstruction. Using an offset alignment would help avoid conflicts between the traveling public and construction personnel and also make it easier to install new drainage structures. Shifting the alignment towards the south in the rural section would also tend to impact fewer property owners and lesser-developed properties. The presently traveled way would be obliterated where it cannot be incorporated into the foundation of the new roadway. The ground would be contoured to match existing terrain and seeded in areas where the old road is obliterated.

FIGURE 4 shows the proposed alignment for the new road.

Vertical Alignment. The vertical alignment of the road would be similar throughout the commercial/residential section.

Improvements to the vertical alignment would be made where feasible in the rural section of the corridor to provide desirable stopping sight distance and passing zones. Maintaining acceptable intersection grades, "balancing" earthwork quantities (the amount of cut and fill) and minimizing right-of-way impacts would dictate the vertical alignment in many areas within the rural section of the corridor. The existing steep grade beginning east of the Helena Valley Canal crossing (near RP 4.8) would be reduced to a grade of approximately 5 percent and the vertical curves would be lengthened.

4. CANYON FERRY ROAD/SPOKANE CREEK ROAD

The intersection of Canyon Ferry Road and Spokane Creek Road would be totally rebuilt with the Preferred Action. The intersection would be reconfigured to make Spokane Creek Road the stop-controlled leg of the intersection and allow for through traffic movement on Canyon Ferry Road. The preferred layout for the intersection would straighten Canyon Ferry Road by eliminating unnecessary horizontal curves and shift the roadway slightly north of its present location. Spokane Creek Road would be altered to intersect Canyon Ferry Road in a "T" configuration just west of the Glass Slipper Lounge. This section of road already exists as a "short-cut" around the existing intersection and would be altered to become the main road under the preferred treatment. This would allow the grade on Canyon Ferry Road to be flattened and would completely eliminate the existing substandard intersection at the top of the hill.

Keir Lane would intersect directly to Canyon Ferry Road in a "T" configuration and would be shifted slightly to the south and several other approaches near the new intersection would be eliminated, realigned or combined to better manage access.

The irrigation canal bridge located on Canyon Ferry Road east of the present intersection would also have to be replaced because the existing bridge could not accommodate the necessary physical changes to the roadway in the vicinity. The existing bridge is located on the approach to a curve, and the deck is sloped (superelevated) and constructed at an elevation incompatible with the new alignment.

FIGURE 5 shows the proposed alignment and reconfiguration of the intersection of Canyon Ferry Road and Spokane Creek Road.

It is important to note that reconstruction of the Canyon Ferry Road/Spokane Creek Road intersection is unlikely to be part of an initial reconstruction project within the corridor. Initial reconstruction efforts would probably be devoted to improving Canyon Ferry Road between the western project terminus and the Helena Valley Canal bridge at RP 4.77. Reconstruction of the roadway east of RP 4.77 would be unlikely until some years after the completion of the western section when additional funding becomes available.

5. OTHER INTERSECTIONS AND APPROACHES

Most of the intersections within the Canyon Ferry Road project area are configured as square "T" or as intersections with four approach legs. The Preferred Action would generally maintain the location and layout of all public road approaches. Auxiliary lanes for left or right turning traffic are proposed for side road approaches at the following locations:

Wylie Drive Left turn lane and combined through/right turn lane for SB traffic
Left, through, and right turn lanes for NB traffic

Valley Drive Left turn lane and combined through/right turn lane for SB traffic
Left turn lane and combined through/right turn lane for NB traffic

Due to the proposed alignment shifts in the rural section of the corridor, most public and private

road approaches would require minor modifications to intersect with Canyon Ferry Road at acceptable grades and angles.

Public and private approaches would be designed and reconstructed to fit local conditions and in a manner that would ensure safe entry and exit from the highway. Approaches would typically be aligned to intersect the roadway at angles between 75 and 90-degrees to provide adequate sight distance. MDT typically paves public and private approaches to the right-of-way limit. Farm field approaches (those approaches that provide access only to pasture or farmland) typically receive a narrow paved strip adjacent to the highway shoulder and gravel surfacing to the new right-of-way line.

6. TYPICAL ROAD CROSS-SECTIONS

Since the project corridor consists of two distinct sections - a commercial/residential section and a rural section - the proposed road design should also be responsive to the notable variance in land uses and roadside environment.

The reconstructed highway would be built with a plant mix bituminous (asphalt) surface over the top of a crushed gravel base course. Surfacing depths would be determined after the completion of detailed soils investigations and pavement design activities. The pavements of the new road would be designed to last for at least 20 years with regular maintenance and preservation activities based upon projected traffic demands.

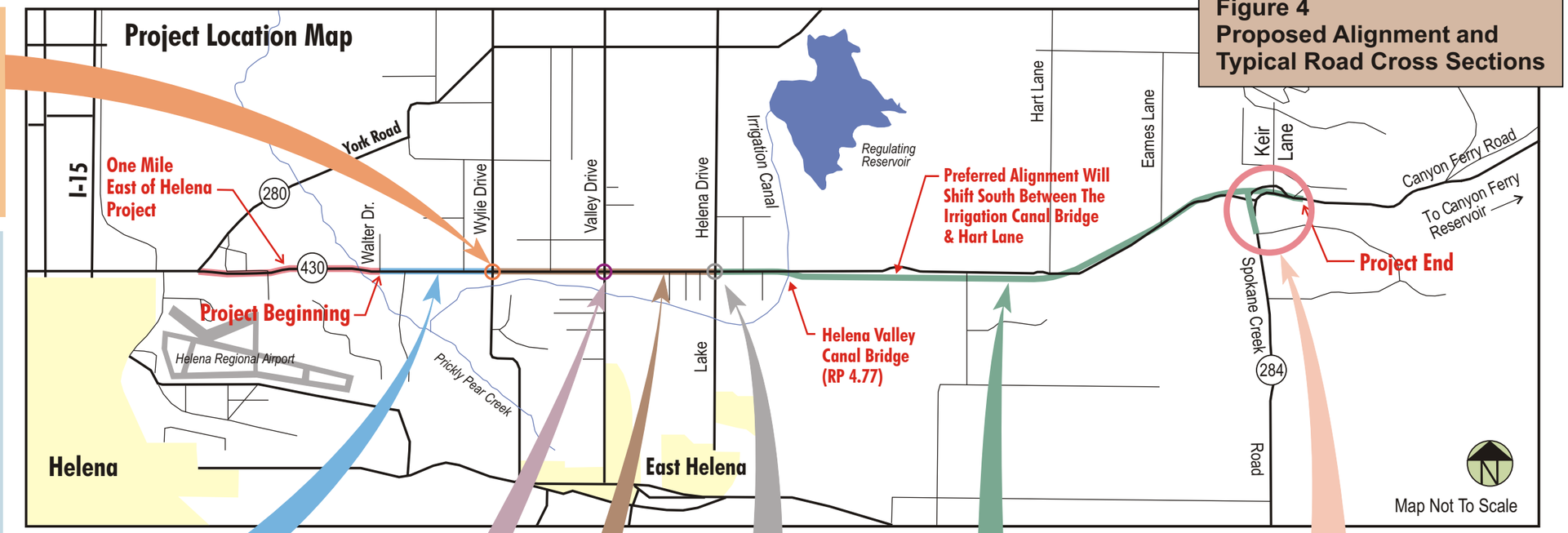
The proposed typical road cross-sections for each section of the corridor are described below and are also shown in **FIGURE 4**.

Commercial/Residential Section (RP 1.00 to 4.20). Between the project's beginning and Baldy Drive (near RP 1.6), the new road would be rebuilt to provide two 3.6 m (12-foot) wide travel lanes and two 2.4 m (8-foot) paved shoulders. In addition, separate 4.2 m (14-foot) wide left turn lanes would be provided at the approach to Helena Sand and Gravel (RP 1.2), Tizer Road (RP 1.4), and Baldy Drive (RP 1.6). The portion of the roadway between Tizer Road and Baldy Drive where left turn lanes are not provided would be striped as a painted median. With the exception of the section of roadway between the beginning of the project and the approach to Helena Sand and Gravel, the new road's top width in this area would be 16.2 m (54 feet). The roadway would be 12.0 m (40 feet) wide from the project's beginning to RP 1.2 and would gradually increase in width to 16.2 m (54 feet) east of Tizer Road.

FIGURE 4 shows the proposed alignment and typical sections for the Canyon Ferry Road project.

Between Baldy Drive and Wylie Drive, Canyon Ferry Road would be reconstructed to include turn lanes for left and right turning vehicles from Canyon Ferry Road onto Wylie Drive. A 4.2 m (14-foot) wide center two-way left turn lane would be provided west of Wylie Drive.

Figure 4
Proposed Alignment and Typical Road Cross Sections



Canyon Ferry Road/Wylie Drive Intersection

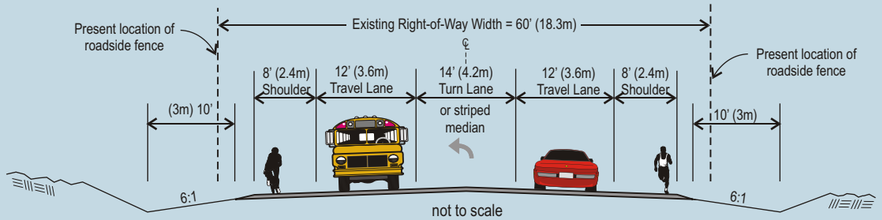
- ❑ Install traffic signalization and crosswalks
- ❑ Provide left, through, and right turn lanes for EB traffic
- ❑ Provide left turn lane and combined through/right turn lane for WB traffic
- ❑ Provide left turn lane and combined through/right turn lane for SB traffic
- ❑ Provide left, through, and right turn lanes for NB traffic

Project Beginning to Baldy Drive

- ❑ Rebuild following existing centerline
- ❑ Provide two 3.6 m (12-foot) wide travel lanes and two 2.4 m (8-foot) paved shoulders with striped median & center left turn lanes
- ❑ Provide 4.2 m (14-foot) wide left turn lanes at Helena Sand and Gravel (RP 1.2), Tizer Road (RP 1.4), and Baldy Drive (RP 1.6)

Baldy Drive to Wylie Drive

- ❑ Rebuild following existing centerline
- ❑ Provide two 3.6 m (12-foot) wide travel lanes, two 2.4 m (8-foot) shoulders, and a 4.2 m (14-foot) wide continuous two-way left turn lane
- ❑ Provide overhead lighting at Wylie Drive Intersection



Canyon Ferry Road/Valley Drive Intersection

- ❑ No traffic signal at this time, maintain flashing beacon and stop controls
- ❑ Install provisions for future traffic signal
- ❑ Provide left turn lanes and combined through/right turn lanes for NB and SB traffic
- ❑ Provide overhead lighting at intersection
- ❑ Provide desirable intersection sight distance

Canyon Ferry Road/Lake Helena Drive Intersection

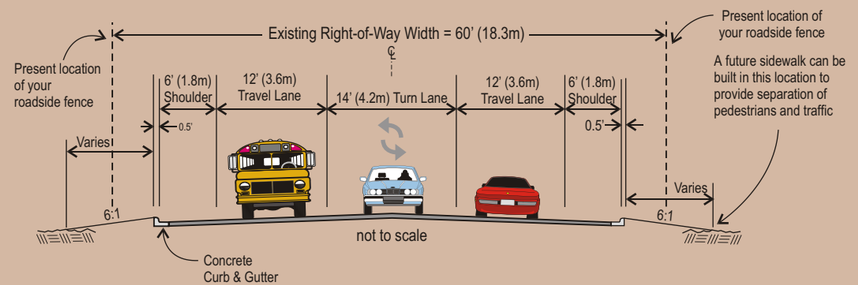
- ❑ No traffic signal, maintain flashing beacon and stop controls
- ❑ Provide left turn lanes for EB and WB traffic
- ❑ Provide overhead lighting at intersection

Canyon Ferry Road/Spokane Creek Road Intersection (See Figure 5)

- ❑ Reconfigure to a "T" intersection and make Spokane Creek Road the stop-controlled leg of the intersection
- ❑ Shift intersection location to west of Glass Slipper
- ❑ Change grades to provide adequate sight distance
- ❑ Provide left turn lane and through lane for WB traffic on Canyon Ferry Road
- ❑ Provide left turn lane for EB traffic at Kier Lane
- ❑ Lengthen Kier Lane approach, create standard "T" intersection
- ❑ Provide overhead lighting at intersection
- ❑ Add transverse rumble strips on Spokane Creek Road

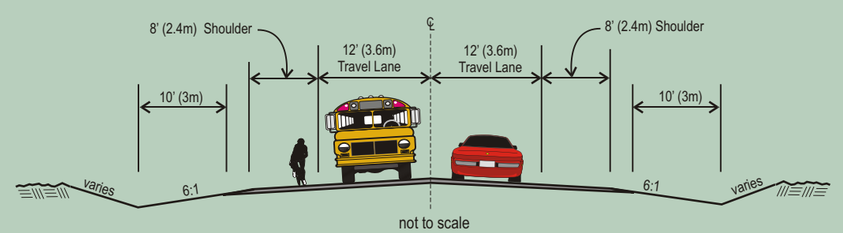
Wylie Drive to Lake Helena Drive

- ❑ Rebuild following existing centerline
- ❑ Provide two 3.6 m (12-foot) wide travel lanes, two 1.8 m (6-foot) shoulders, and a 4.2 m (14-foot) wide continuous two-way left turn lane
- ❑ Provide curb and gutter and a storm runoff collection system
- ❑ Consider reducing travel lanes to 3.3m (11-foot), while increasing shoulder widths to 2.1m (7-feet)
- ❑ Eliminate sidewalk alternative under this project to reduce overall construction width and cost. Sidewalk can be built under future project when property owner consensus is strong



Lake Helena Drive to Spokane Creek Road

- ❑ Rebuild following existing centerline to Helena Valley Canal Bridge at RP 4.77
- ❑ Rebuild offset from existing centerline east of Helena Valley Canal, modify curves and grades to meet MDT standards
- ❑ Provide two 3.6 m (12 foot) wide travel lanes and two 2.4 m (8-foot) paved shoulders
- ❑ Utilize V-type ditches to minimize new right-of-way needs



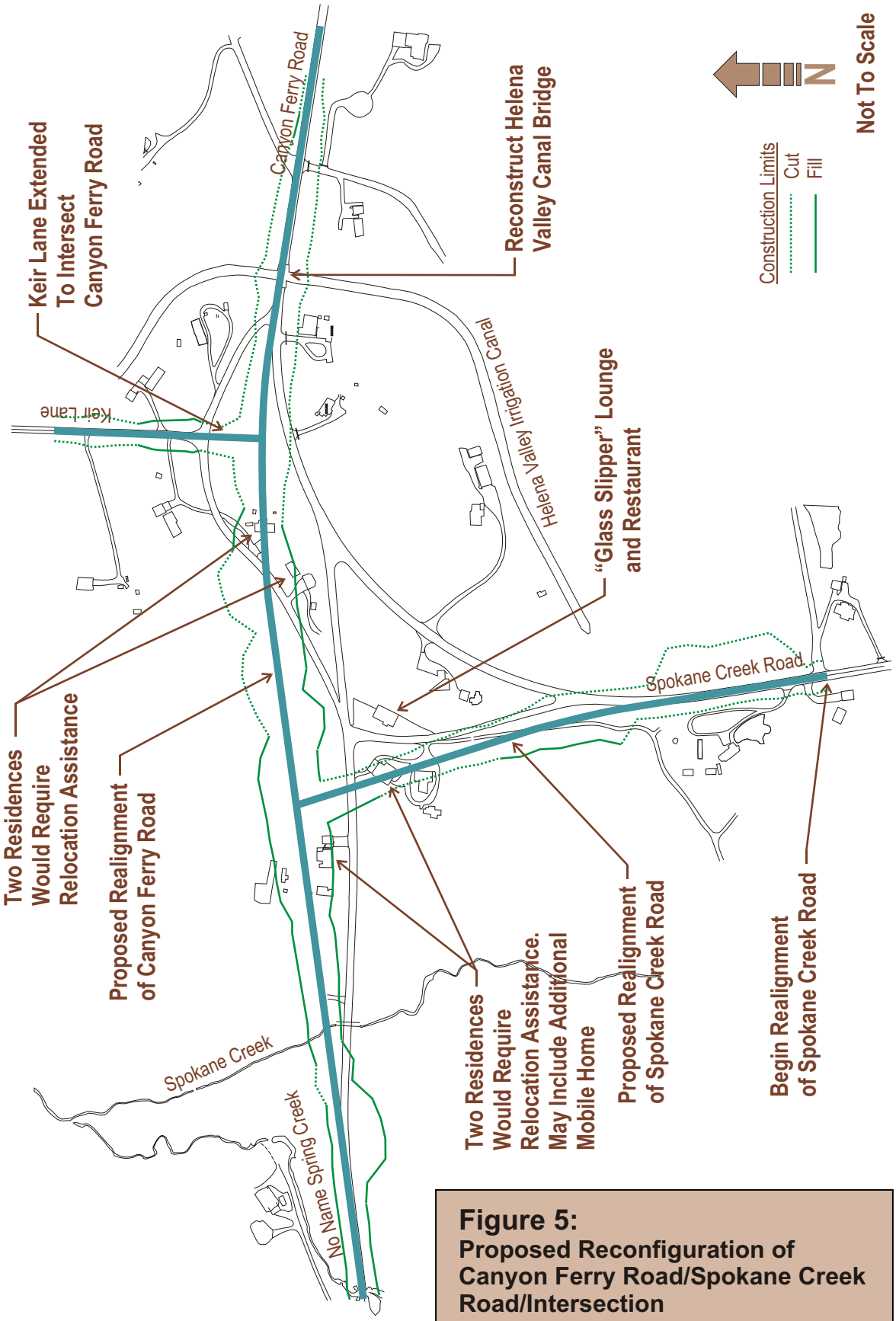


Figure 5:
Proposed Reconfiguration of Canyon Ferry Road/Spokane Creek Road/Intersection

Dedicated turn lanes would also be provided at the intersections of Canyon Ferry Road and Dusty Maiden Drive (RP 2.7), Valley Drive (RP 3.1), and Lake Helena Drive.

Curb and gutter and a storm water runoff collection system would be provided along the roadway from Wylie Drive to Lake Helena Drive. This segment would consist of two 3.6 m (12-foot) wide travel lanes and a 4.2 m (14-foot) wide continuous two-way left turn lane. Consideration is being given to reducing the width of travel lanes to 3.3 m (11 feet) and providing paved shoulders with widths of 1.8 to 2.1 m (6 to 7 foot) from the edge of the travel lane to the face of curb between Wylie Drive and Lake Helena Drive. Reducing the width of travel lanes may provide some "traffic calming" benefits in this area. A 2.1 m (7 feet) wide shoulder would also provide more clearance between through lanes and occasional disabled vehicles and mail delivery vehicles.

The proposed typical road cross-sections within the commercial/residential section of the project corridor are presented in **FIGURE 4**.

Rural Section (East of RP 4.20). East of Lake Helena Drive, Canyon Ferry Road would typically be reconstructed to a paved width of 12.0 m (40 feet) accommodating two 3.6 m (12-foot) wide travel lanes and two 2.4 m (8-foot) paved shoulders. MDT's geometric design criteria indicate that shoulders within this portion of the project area should be at least 1.2 m (4-foot) wide based on current traffic volumes. However, 2.4 m (8-foot) paved shoulders have been proposed in response to projected future (design year) traffic on the route and to allow a disabled vehicle to pull to the side of the road without being within traffic lanes. Providing 2.4 m (8-foot) wide shoulders would eliminate the need for mailbox turnouts or additional surfacing widening to accommodate future pavement overlays.

The project would provide 3.6 m (12 feet) wide left turn lanes at the intersections of Lake Helena Drive, Spokane Creek Road and Keir Lane.

V-ditches would be provided throughout this section of the project and standard cut and fill slopes would be constructed based on MDT's standard cut and fill slope guidelines and in accordance with geotechnical recommendations. V-ditches have been proposed instead of flat-bottom ditches in response to public concerns about minimizing new right-of-way acquisition and to reduce excavation costs. In general, V-ditches are about 3.0 m (10 feet) narrower than standard flat bottom ditches. Flat-bottom ditches, however, would likely be used in deeper cut sections to alleviate snow-drifting problems.

The proposed typical road cross-section within the rural section of the corridor is shown in **FIGURE 4**.

Rumble Strips. Rumble strips would be installed within the rural segments of this project in accordance with MDT's current policy that calls for 300 mm (1-foot) long rumble strips to be cold-milled at an offset of 150 mm (6 inches) outside the edge of travel way (shoulder stripe).

Transverse rumble strips extending across the full width of one travel lane would be provided on the Spokane Creek Road approach at the reconfigured intersection of Canyon Ferry Road. Incorporating transverse rumble strips prior to the intersection is a safe and cost-effective means

to warn drivers of the approaching stop control. Rumble strips are viewed as beneficial in this instance due to the lack of other stop controls on this roadway. In addition, stop ahead warning signs and oversized stop signs would be used to reinforce the stop condition.

7. BRIDGES AND CULVERTS/DRAINAGE

As directed by the BUREAU OF RECLAMATION and the Helena Valley Irrigation District, the existing bridges over the Helena Valley Canal at RP 4.77 on Canyon Ferry Road and at RP 4.70 on Spokane Creek Road would be replaced with new structures that completely span the canal. Letters from the BUREAU OF RECLAMATION and the Helena Valley Irrigation District concerning their requirements for the bridges can be found in APPENDIX B. The proposed bridges would likely have cast-in-place concrete decks with concrete barrier rails similar to the bridge recently constructed over Prickly Pear Creek under MDT's "One Mile East of Helena" project. The new bridges would be sized to accommodate the proposed 12.0 (40-foot) wide roadway.

The existing timber bridge over "No Name" Spring Creek would be replaced with an adequately sized pipe. The existing dual culvert installation at Spokane Creek would likely be replaced since the present pipes are not compatible with the proposed design. Appropriately sized culverts would be installed at other intermittent drainages within the project corridor to maintain surface drainage patterns and provide flood relief.

A new storm water runoff collection system would be provided between Wylie Drive and Lake Helena Drive where curb and gutter is proposed. The system would include drop inlets and an outfall line(s), where possible, for stormwater collected from the roadway surface. The roadside in this portion of the corridor is moderately developed with few natural drainages for outfall locations. For these reasons, a stormwater infiltration/detention/retention system to handle runoff would also be a necessary part of the proposed project.

8. TRAFFIC SIGNALS AND LIGHTING

The intersection of Canyon Ferry Road and Wylie Drive would be signalized with this proposed project. Overhead lighting would also be installed in conjunction with signalization at the intersection. As indicated in Part II, signal warrants were reviewed for the Canyon Ferry Road/Valley Drive intersection but anticipated conditions would not be expected to satisfy any warrants for at least ten more years (possibly five years after reconstruction of the highway).

MDT would reconstruct the intersection to include appropriate turn lanes and the necessary underground conduits to facilitate the installation of a future signal at Valley Drive once warrants are met. Valley Drive currently has a flashing beacon with amber flashers for through traffic and red flashers for stop-controlled traffic to heighten motorist awareness of traffic control at the intersection. A similar flashing beacon was installed at the Canyon Ferry Road/Lake Helena Drive intersection in 2002. These beacons would be perpetuated under this project and similar beacons would be considered at the reconfigured intersection of Spokane Creek Road and Canyon Ferry Road.

In addition to the intersections listed above, the Preferred Action would provide lighting at all major intersections on Canyon Ferry Road. The intersections where lighting is proposed include Lake Helena Drive, Valley Drive, Keir Lane, and Spokane Creek Road.

9. ACCESS CONTROL AND MANAGEMENT

Limited access control and access management would be incorporated as part of the proposed Canyon Ferry Road reconstruction project. Access management has been proposed for this route in response to the documented problems of traffic congestion, conflicts, and motor vehicle accidents.

Access management involves the establishment of guidelines for managing access points and spacing along a highway, adding turn lanes, incorporating turning restrictions, consolidating accesses, eliminating unnecessary accesses and implementing traffic control measures to maintain the desired operational characteristics of the highway. The goals of access management are to improve the safety, function, and operation of the roadway, and to ultimately provide a traffic facility that better serves both local and regional users. MDT will ensure that all residents or businesses have reasonable access to their properties. However, some residents may be required to access their properties from alternate routes as MDT tries to eliminate unsafe access points and reconfigure underused accesses.

An Access Management Plan would be prepared showing the specific location, configuration, ownership, land use type and level of use (volume) for each individual property access within the corridor. The intent of the Access Management Plan would be to identify and perpetuate necessary existing access points; shift or combine approaches where practical; and eliminate unneeded approaches. Access Management Guidelines would be developed for the project with the following classifications:

> ***Developed Access Control*** for use in developed or developing areas where a high degree of access is required.
>
> ***Intermediate Access Control*** for use in areas where developed ends and before rural begins.
>
> ***Rural Access Control*** for use in primarily undeveloped areas that exhibit an agricultural or natural character.

A set of Access Control Plans would be developed and the locations where these specific classifications apply would be shown on the plans.

The Access Management Guidelines are intended to provide "reasonable" access to all existing properties/parcels. To the extent possible, existing accesses would be made to conform to the guidelines set forth in this document. New accesses, subdivisions, or changes in use would be required to meet the guidelines. Exceptions to the guidelines may be made on a case-by-case basis upon review by state and local officials. MDT would administer the Access Management Plan and be responsible for all decisions on access requests.

10. HIGHWAY RIGHT-OF-WAY AND UTILITIES

New right-of-way would be required over the length of the project corridor to build the proposed highway improvements. The design of the Preferred Action would attempt to limit new right-of way acquisition needs. Temporary construction permits would be used to build generally non-critical improvements (like slope adjustments) beyond the permanent right-of-way for the highway.

Overhead power line crossings, cable television, and underground telephone lines or other utilities in conflict with the proposed highway reconstruction would be relocated.

Prescriptive, temporary, or permanent easements for existing highway right-of-way may be abandoned by MDT as a result of the proposed improvements to Canyon Ferry Road. In these instances, the easements would revert to underlying landowners. However, according to 23 CFR 710.403 (c) and (d), if any rights-of-way are held in fee and were previously acquired with federal highway funding, MDT must complete an environmental document and seek fair market value for sale of the excess property. If a public benefit can be shown, sale by MDT can be at less than market value.

11. MISCELLANEOUS FEATURES

Fencing. The Preferred Action would replace existing fencing impacted by the proposed highway construction. MDT would coordinate fencing needs with affected landowners during the right-of-way negotiation and design phases of the project.

Landscaping. Landscaping, other than applying topsoil, seed and fertilizer along the roadway is not proposed as part of the Preferred Action. However, MDT would work with the owners of residential or commercial properties along Canyon Ferry Road to remedy potential impacts to existing landscaping that may result from the proposed construction project. Remedies could include moving affected landscape features, providing similar replacement landscaping, or providing financial compensation to landowners for impacts. MDT provides fair market value for landscaping impacted by its construction projects. However, landscaping impacts are considered by their overall effect on a property parcel rather than by the number of affected individual trees or shrubs.

Mailboxes. Currently, roadside mail delivery only occurs to boxes located on the north side of the highway. Consultation is ongoing with postal authorities in Helena and East Helena regarding mailbox locations and possible route delivery changes along Canyon Ferry Road. However, it is certain that roadside mail delivery would continue in some manner and would likely be enhanced with the proposed project.

The proposed project would provide shoulders of sufficient width in the rural section to provide for roadside delivery without adding special pullouts. In other areas (especially in the commercial/residential section) of the corridor, coordination with postal authorities is ongoing to

help identify measures to increase safety by providing mailboxes on both sides of the highway. This would eliminate the need for about half of the postal patrons to cross the highway to retrieve their mail. In locations where mail is delivered to subdivisions, mailbox banks would be relocated from the Canyon Ferry Road shoulder to the subdivision's approach. This would enhance the safety of both patrons and delivery personnel by removing them from through traffic.

Stockpasses/Cattleguards. One stockpass beneath the highway and a stock bridge across the Helena Valley Canal exist within the project corridor. The stockpass, located east of Hart Lane (near RP 7.5), would be maintained at this location and replaced with a similar structure beneath the realigned highway due to its frequent use and the lack of stock water on the north side of Canyon Ferry Road. The existing stockpass would likely be replaced with a 2400mm (about 96 inches) diameter corrugated steel pipe stockpass.

Efforts would be made to avoid the existing timber stock bridge located south of the highway and Helena Valley Canal Bridge (near RP 4.77). However, if the stock bridge cannot be avoided due to road reconstruction, a replacement structure would be provided in the same vicinity.

Irrigation Systems. Eleven irrigation crossings consisting of canals, siphons, and pipes currently convey irrigation water across Canyon Ferry Road within the limits of the proposed project. Abandonment of any of these crossings is not feasible based on the current water rights, and the use of the crossings. Therefore, all eleven irrigation crossings would be maintained with the existing structures or replaced with new structures under this proposed project.

MDT would also ensure that impacts to existing irrigation systems (e.g. pivot irrigation and other types of watering systems), would be adequately mitigated through contacts and coordination with affected landowners.

Additionally, relocation of a short section of the Helena Valley Canal is necessary along the south side of the highway near RP 2.3 east of Wylie Drive to accommodate the proposed roadway features and to ensure the canal does not present a hazard to highway users. A new easement for the relocated section of the canal must be acquired from the adjoining landowner(s). As indicated by the letters that can be found in APPENDIX B, a significant amount of coordination about the proposed relocation of the Helena Valley Canal has been already occurred with the BUREAU OF RECLAMATION and the Helena Valley Irrigation District. Further coordination regarding this proposed canal shift and its design must occur with these involved parties.

D. Design Options Considered But Rejected

Other design options for the commercial/residential section of the Canyon Ferry Road corridor were considered during the development of the Preferred Action. These options and the reasons why they were dropped from consideration are discussed below.

1. INCORPORATION OF OTHER ROADSIDE FEATURES IN THE COMMERCIAL/RESIDENTIAL SECTION

During scoping activities for the EA and early project meetings, various roadside features that could be incorporated with the design of the new road between Wylie Drive and Lake Helena Drive were presented to the public. These features included sidewalks, boulevards, and multi-use path with boulevard.

Public reactions to incorporating a minimal width sidewalk immediately behind the back of roadside curb were mixed. Comments suggested that little demand for sidewalks exists because the area does not currently receive much pedestrian activity and there are really no destinations in the area encouraging pedestrian travel. Further, the project area lacks any connections to other sidewalks or paths to East Helena.

The option of providing a 1.525 m (5-foot) sidewalk separated from the road by a 1.525 m (5-foot) wide boulevard along both sides Canyon Ferry Road between Wylie Drive and Lake Helena Drive was dropped from consideration. The principal reason for eliminating this feature from consideration was the need for substantially expanding the right-of-way and associated impacts to adjoining property owners. Other factors including maintenance obligations, snow removal concerns, overall installation costs, loss of the semi-rural appearance of the area, and safety concerns for pedestrians adjacent to traffic were considered before the decision was made to drop sidewalks from this proposed project.

For similar reasons, incorporating a 2.4 m (8-foot) wide multi-use path with a 1.525 m (5-foot) wide boulevard along one or both sides of the new road was dropped.

Public comments both supported and opposed the inclusion of these roadside features. Although these features would enhance the appearance and use of the roadway corridor, the majority of landowners along Canyon Ferry Road listed minimizing right-of-way acquisition and associated property impacts as their highest priority concern for the project. Therefore, due to potential right-of-way impacts, lack of public consensus, construction costs, and the probability of substantially higher costs associated with the necessary right-of-way acquisition, the options of incorporating boulevards and separated sidewalks or multi-use paths were eliminated from consideration.

E. Location Alternatives Considered But Rejected

1. RECONSTRUCT THE RURAL SECTION OF CANYON FERRY ROAD FOLLOWING THE EXISTING CENTERLINE

Reconstructing Canyon Ferry Road following the existing centerline through the rural section of the corridor was eliminated from consideration because the new road near would unduly encroach on many developed land uses on the north side of the route including a major residential subdivision. The increased surface width of the road, flatter roadside slopes and reconstructed ditches would make the new road considerably wider than the existing facility that has no shoulders, limited cuts and fills, and steep roadside ditches. The most notable effects of reconstruction following the existing highway's centerline would be experienced by the numerous residents and developed properties lying immediately north of the present highway.

Another important reason for rejecting this alternate alignment was the need to maintain traffic flows on this locally important travel route during the construction period. Maintaining traffic on the road during construction is an expensive proposition that can lead to conflicts and safety issues. Since the contractor would be obligated to minimize delays to motorists, significant amounts of time, effort and cost would have to be devoted to maintaining a passable road surface in the corridor and controlling traffic within work zones should the highway be constructed following the existing alignment. The preferred sequencing of work activities could be affected by building the new road on the existing centerline and having to maintain traffic through the work zone. Conflicts would inevitably arise between through traffic, construction personnel, and the operation of construction equipment if the road were rebuilt following the existing centerline. Therefore, notable concerns for the safety of construction personnel and the traveling public exist with this alternative.

2. OFFSET CANYON FERRY ROAD TO THE NORTH BETWEEN THE

It would be possible to reconstruct Canyon Ferry Road on an alignment shifted to the north of the existing road from east of the Helena Valley Canal (about RP 4.8) to Hart Lane (RP 7.1). However, this alignment option was eliminated from consideration because shifting the alignment would impact large numbers of existing rural residences and would affect future development in new residential subdivisions (most notably Holmberg Village Estates) located immediately north of the highway. Most land to the south side of Canyon Ferry Road in this portion of the corridor is currently vacant agricultural land. Shifting the alignment towards existing and planned developments and impacting many residents when the road could be built elsewhere with far fewer effects was viewed as an unacceptable action.

3. RECONSTRUCT THE COMMERCIAL/RESIDENTIAL SECTION OF CANYON FERRY ROAD ON AN OFFSET ALIGNMENT

Reconstruction of the road through the commercial/residential section of the corridor could be accomplished using an offset alignment. However, alignments shifting Canyon Ferry Road's location either north or south of the present centerline in the built-up commercial/residential section have been eliminated. Unlike the rural section in which an alignment shift is beneficial to limit impacts to numerous residential properties and provides the additional benefit of limiting conflicts between highway users and construction personnel and equipment, a shift in the alignment's centerline in the commercial/residential section would heighten impacts. The intent of placing the new alignment nearly on top of the old in the preferred treatment is to balance impacts equally to properties left and right of centerline, each of which are comparable in the level of development to one another.

Substantial alignment shifts in this segment would result in otherwise avoidable total property acquisitions due to the proximity of homes and development to the existing right-of-way. Building the new highway in this segment following the existing centerline as proposed would necessitate considerable traffic control during construction. However, these temporary impacts were judged to be unavoidable and far less severe when compared to the permanent right-of-way impacts associated with reconstructing Canyon Ferry Road on an offset alignment through this section of the project corridor.

F. Other Layouts Considered for the Canyon Ferry Road/Spokane Creek Road Intersection

The intersection of Canyon Ferry Road and Spokane Creek Road is significantly skewed, located on a curve, has steep grades on all approaches, and has sight distance restrictions due to its geometric layout. Canyon Ferry Road west of Spokane Creek Road joins the intersection on a steep (10%) grade and within the midst of a sharp curve. The intersection is currently configured so traffic on Canyon Ferry Road east of the intersection and on Spokane Creek Road is not required to stop. Eastbound traffic on Canyon Ferry Road must stop at the intersection. Recent studies have shown that about 70% of the traffic that passes through this intersection turns from or onto Canyon Ferry Road. Additionally, the intersection has a significant long-term history of motor vehicle crashes. These geometric deficiencies and operational problems indicate a need to reconfigure the intersection.

Intersection Alternates Considered. Reconfiguring the intersection to address identified concerns would involve major alterations to the geometric layout of this intersection and changes to the grades on one or more approaches to the intersection. Such changes have the potential to impact adjacent residences, at least one business, and a portion of the Helena Valley Canal. For this reason, detailed studies of alternate layouts for the intersection were undertaken during preliminary design activities. Four intersection alternates (including the proposed configuration discussed with the Preferred Action, were developed and analyzed in detail.

These other alternates were developed based on the following general design concepts:

- closely following the existing highway corridor while still meeting the minimum current design criteria to achieve the project's purpose and need;
- maintaining Canyon Ferry Road as stop-controlled at the intersection with Spokane Creek Road and shifting the intersection south of its present location to achieve desirable sight distance and improved approach designs for other intersecting roads; and
- shifting Canyon Ferry Road north of its present alignment and reconfiguring Spokane Creek Road as a stop-controlled intersection.

Descriptions of the specific design alternates considered for the Canyon Ferry Road/Spokane Creek Road intersection are provided below. **FIGURE 6** illustrates each of these alternate intersection configurations.

Alternate 1 This Alternate would reconstruct Canyon Ferry Road on a new alignment similar to the existing highway but offset slightly to the south of the present road. The objective of this alternate design was to closely follow the existing corridor while attempting to minimize impacts to residences and still meet the minimum current design criteria. To revise the intersection so Canyon Ferry Road is the "through route," Spokane Creek Road would join Canyon Ferry Road in a stop-controlled "T" configuration slightly west of the Glass Slipper.

Alternate 2 This Alternate would shift Canyon Ferry Road south of the present roadway to intersect with Spokane Creek Road in a "T" intersection. The new intersection would be located about 220 m (720 feet) south of the existing highway. The objective of Alternate 2 was to identify an alternate alignment that was removed from the residential and commercial development near the present intersection. This alternate would require Canyon Ferry Road to continue as the stop-controlled leg of the intersection. While this would not accommodate the predominant east-west traffic flow and movements at the intersection, the alternate offers considerable opportunities to improve geometric conditions over the existing intersection.

Alternate 3 (Preferred) Alternate 3 would shift Canyon Ferry Road about 60 m (200 feet) to the north in the area west of the existing intersection. Spokane Creek Road would intersect Canyon Ferry Road in a stop-controlled "T" configuration west of the Glass Slipper. The objective of this alternate is to reconstruct Spokane Creek Road as the stop-controlled leg of the intersection and connect to the present roadway east of the intersection with as few alignment changes as possible.

Alternate 4 This Alternate is similar to Alternate 3 except that the proposed Canyon Ferry Road alignment would be shifted even further to the north by providing one long sweeping horizontal curve. The alternate would provide the preferred treatment of reconstructing the Spokane Creek Road as the stop-controlled leg of the intersection. Alternate 3 attempts to shift the new road and intersection away from

most of the residential and commercial development that exists near the present intersection.

Two options were also considered for reconstructing Spokane Creek Road as the stop-controlled leg of the new intersection. One option would reconstruct and upgrade the current "cut across" road located immediately west of the Glass Slipper. A second option was developed that would move the Spokane Creek Road intersection west to join Canyon Ferry Road east of Spokane Creek. This option was considered in an attempt to eliminate associated impacts to developed properties in the area.

The various intersection layouts were presented for comment at public meetings on the project and discussed during individual meetings with affected landowners. Public and landowner comments on the intersection options were discussed with the staff from Lewis and Clark County and used to refine each alternate layout if necessary.

Evaluation of Alternates. A thorough engineering and environmental review of each alternate was completed to help identify a preferred layout for the Canyon Ferry Road/Spokane Creek Road intersection. Preliminary designs for Alternates 1 through 4 were prepared and used to establish the likely limits of construction and gauge right-of-way needs. The preliminary designs also helped assess the overall operation and environmental effects for each of the alternate intersection layout. **TABLE 5** presents a comparison of the engineering considerations and notable environmental effects of the alternate configurations for the Canyon Ferry Road/Spokane Creek Road intersection.

Intersection Alternates Eliminated from Consideration. Alternates 1, 2, and 4 were eliminated from consideration for geometric design reasons, concerns over the creation of new operational problems at the intersection, and their minimal differences in right-of-way and relocation impacts when compared to Alternate 3, the preferred intersection layout. Due to the undesirable configuration, operational problems and extensive accident history associated with the existing intersection, MDT and Lewis and Clark County have placed a high priority on improving traffic operations and safety in the vicinity of Canyon Ferry Road and Spokane Creek Road. In short, Alternates 1, 2, and 4 were rejected because they failed to provide a design for the new intersection that was judged to be as safe (or safer) than the alignment proposed as part of the Preferred Action.

The reasons Alternate 3 is preferred over the other intersection alternates are summarized below:

- Alternate 3 would incorporate one horizontal curve to replace the four sharp curves associated with the present roadway alignment at the intersection.

- The grade of Canyon Ferry Road under Alternate 3 would be substantially improved over existing conditions. The roadway can be developed to more closely match existing terrain as compared to Alternate 2.

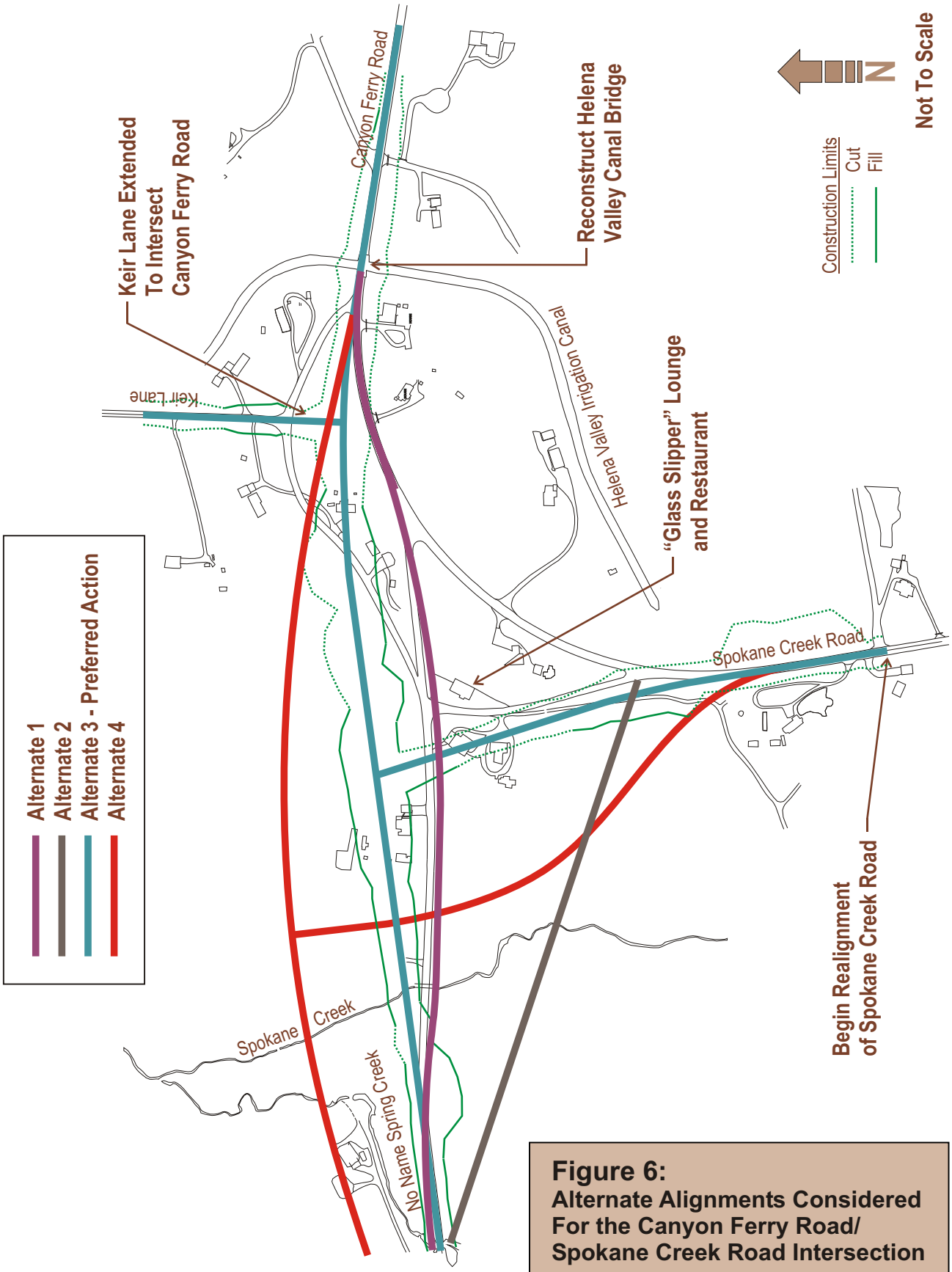


Figure 6:
Alternate Alignments Considered For the Canyon Ferry Road/ Spokane Creek Road Intersection

- The superelevation (banking) of the proposed curve with Alternate 3 is flatter (4%) than the curves associated with the existing intersection or Alternate 1. Alternate 1, which requires sharper and more steeply banked curves, is not favorable to realigning the Spokane Creek Road intersection.

- The intersection would be reconfigured into a preferable "T" intersection with Spokane Creek Road being the stop-controlled leg of the intersection. Intersection and stopping sight distances meet or exceed desirable values.

- Shifting the alignment of Canyon Ferry Road north of its present location allows more flexibility and options for connections with Spokane Creek Road than Alternate 1.

- Fewer impacts to agricultural properties and operations would be expected from Alternate 3 as compared to Alternate 2.

- The "T" intersection locations for Spokane Creek Road and other roads would generally lie on flatter grades and be located within a tangent (straight) section with a normal crown as compared to Alternate 1. Vehicles turning off Canyon Ferry Road onto Spokane Creek Road would not have to negotiate the cross-slope banking in horizontal curves associated with Alternates 1 and 4. The Keir Lane intersection can be situated at a favorable location with Alternate 3.

- Alternate 3 would accommodate the provision of a left turn lane for westbound traffic without creating additional impacts to residences. Adding a turn lane with Alternate 1 would affect one more residence than Alternate 3 and would impact a business located near the intersection.

- Access management opportunities increase with Alternate 3 as compared to Alternate 1. Approaches can be more easily combined and grades improved by shifting Canyon Ferry Road's alignment to the north.

- Offsetting the alignment as proposed in Alternate 3 would require less traffic control during construction than Alternate 1.

- Alternate 4 would require higher fills and deeper cuts than Alternate 3. Alternate 4 would require affect different properties but would still have the same overall relocation effects. Alternate 4 would have a less favorable alignment than Alternate 3 at the Spokane Creek crossing.

INSERT TABLE 5 - 7 pages (separate file in this directory)

Table 5: Comparison of Environmental Effects of Preferred Action Versus Other Alternates Considered for Canyon Ferry Road/Spokane Creek Road Intersection

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Right-of-Way Effects	New right-of-way needed throughout project. This alternate would acquire the least amount of acquisition of new right-of-way beyond the existing easement.	New right-of-way needed throughout project. While this alternate would impact the least number of residences, crossing the "bottomland" of Spokane Creek would require the acquisition of substantial amounts of agriculture property south of Canyon Ferry Road. Cut and fill heights associated with this alternate would increase right-of-way needs over Alternates 1 and 3.	New right-of-way needed throughout project. This alternative would require the acquisition of more agricultural land from more property owners than Alternate 1.	New right-of-way needed throughout project. Cuts and fills associated with the new highway would encroach on several other residences. This alternative would also require the acquisition of more agricultural land than Alternates 1 or 3.
Relocation Impacts	With the inclusion of a turn lane, this alternate would most likely require the acquisition of two houses, a mobile home, a business, and the "front-yards" of three or more residences near the intersection.	This alignment would likely require the acquisition of one residence just north of the proposed intersection to accommodate a westbound deceleration/right turn lane and a left turn lane for northbound traffic on Spokane Creek Road. Traffic would be shifted away from a business located near the present intersection.	This alternate would require the relocation of four residences and possibly one mobile home located adjacent to the existing highway.	This alternative would require the total acquisition of at least three residences, a mobile home, and potentially a business.
Utilities Impacts	Impacts the greatest amount of public service utilities that exist in the present roadway corridor.	Impacts utilities only at the proposed intersection.	Impacts fewer utilities than Alternate 1.	

TABLE 5 (page 2 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Effects to Helena Valley Canal Bridge	The irrigation canal bridge would have to be replaced because the structure would be incompatible with the new design.	The irrigation canal bridge could remain as is because the Spokane Creek Road would remain as the through route.	The irrigation canal bridge would have to be replaced because the structure would be incompatible with the new design.	
Horizontal Alignment	The proposed horizontal alignment would slightly improve but perpetuate the curves on Canyon Ferry Road near the intersection. Spokane Creek road would intersect Canyon Ferry Road west of the Glass Slipper.	The proposed alignment would eliminate three short horizontal curves associated with the existing road. This alternate would perpetuate the existing horizontal curve and limited sight distance on Spokane Creek Road.	This alternate would replace sharp horizontal curves with one flatter horizontal curve and a tangent (straight) section.	This alternate has just one large radius horizontal curve that replaces multiple curves on the existing alignment. This alignment would offset Canyon Ferry Road the furthest from the present highway.
Vertical Alignment	The vertical alignment would be lessened in this area also, however it would still be the maximum design gradient of 7%. This option would provide the steepest grade on Canyon Ferry Road of all alternates considered. The steeper grade was incorporated to better fit the terrain and limit cut and fill heights and relocations.	The steep grade on the Canyon Ferry Road approach to the intersection would be flattened significantly (3.5% vs. 10% existing grade) by relocating the intersection to the south. This alternative alignment's drawbacks include substantial cuts and fills to provide desirable grades that would change the existing landscape significantly. With these large fills the local approach access points will also have steep grades.	The grade on Canyon Ferry Road for through traffic would be reduced from 10% (existing) to about 4%.	The grade on the west approach would be reduced from 10% (existing) to about 4%. The vertical alignment would result in deeper fills and cuts as compared to Alternates 1 and 3. The proposed alignment would likely not fit the terrain as well as **Alternates 1 and 3.**

TABLE 5 (page 3 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Intersection Geometrics	Spokane Creek Road would tie into the Canyon Ferry Road in a T-intersection west of the Glass Slipper. This is consistent with the proposal that would no longer require east-west traffic to stop at the intersection. The intersection would be situated on a substantially banked curve.	This alternate would maintain Canyon Ferry Road as stop-controlled at the intersection with Spokane Creek Road. This would be inconsistent with the principal traffic flow patterns observed at the intersection. The intersection would be situated on a substantially banked curve and require a deceleration/right turn lane. The intersection would be undesirably located at the south end of a long curve on Spokane Creek Road.	The Spokane Creek Road intersection would be reconfigured into the preferable stop-controlled T-intersection. The Spokane Creek Road intersection would generally lie on a flatter grade and be located within a straight section of roadway.	This alternate would provide the preferred treatment of reconstructing the Spokane Creek Road as the stop-controlled leg of the intersection with Canyon Ferry Road.
Other Intersections and Approaches	Residential approaches and the intersection at Keir Lane would intersect Canyon Ferry Road within a steeply banked horizontal curve. Properties lying within the existing Spokane Creek Road curve area would likely have steeper approaches onto either Canyon Ferry Road, or Spokane Creek Road due to alignment and grade of the new roadway. Approaches to residences west of the bridge would not be compatible with the new road's grade.	The T-intersection with Spokane Creek Road lies on a fairly sharp and highly banked curve. This is an adverse condition to negotiate for the vehicles turning in either right or left onto Canyon Ferry Road. These conditions would be perpetuated with Alternate 2.	The Keir Lane T-intersection with Canyon Ferry Road would lie on curve with flatter banking as compared with existing conditions. Multiple approaches can be combined allowing for the elimination of several access points. Better access management can be achieved with this alternate.	The Keir Lane T-intersection with Canyon Ferry Road would lie on a normal crown section. The access management opportunities increase with this alternate as compared to Alternate 1. Approaches can be more easily combined and grades improved as the alignment shifts further away from properties that are otherwise not directly impacted. This alignment has the furthest offset from the present highway, as compared to all other alternates presented.

TABLE 5 (page 4 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Impacts to Agricultural Land	Impacts to agricultural land uses associated with all alternates would include the acquisition of varying amounts of cropland and pasture land for new highway right-of-way and modifications to field access locations. Generally, access to farm fields or pastures from the new roadway would be maintained, although the location of access points may be moved to ensure adequate sight distance along the new road. Alternate 1 was judged to have the least impacts to such lands and Alternates 2 and 4 would affect the most agricultural land due to the more extensive realignments.			
Impacts to Important Farmland	This alternative would have the least impact to important farmland because the proposed alignment would closely follow that of the existing highway.	There are few discernable differences in impacts between these alternates.		
Air Quality Impacts	Air quality impacts are not a project concern due to relatively low traffic volumes and the high existing air quality of the project area. No discernable difference between alternates.			
Water Quality Impacts	Reconstructing Canyon Ferry Road with this alternate would require new crossings of No Name Spring Creek and Spokane Creek near the location of existing crossings. Fill placement and minor work within stream channels would be required at the new highway crossings. Alternate 1 would be similar to Alternate 3 in its impacts to No Name and Spokane Creeks.	Reconstructing Canyon Ferry Road under any of these alternates would require new crossings of No Name Spring Creek and Spokane Creek, the same streams crossed by the existing highway. Fill placement and minor work within stream channels would be required at the new highway crossings. Consequently, the impacts of constructing the highway on a new route through this area would be similar to those associated with rebuilding on or near the existing highway. Bridges may need to be used at stream crossings because of the fill heights and the undesirable angles at which the new road would cross the streams.	Crossings of both creeks are close to existing crossings with similar grades. The road's "footprint" at the stream crossings would be minimized with Alternate 3.	Alternate 4 would result in substantial fill heights and require wider fill sections. This may dictate the use of longer culverts or potentially replacing culverts with bridges at stream crossings.
Impacts to Wetlands	This reconstruction alternate would impact about 0.13 ha (0.3acres) of delineated wetlands.	Alternate 2 would impact about 0.60 ha (1.5acres) of delineated wetlands.	This reconstruction alternate would impact about 0.10 ha (0.25 acres) of delineated wetlands.	Alternate 4 would impact about 0.24 ha (0.6acres) of delineated wetlands.

TABLE 5 (page 5 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Vegetation Impacts	This alternate would require the least amount of clearing due to the proximity to the existing highway.	This realignment option represents a notable departure from the location of the existing highway and it would require that vegetation be permanently cleared to establish the new alignment. The proposed realignment would require more clearing than any other alternate due to its substantially higher fills through the Spokane Creek drainage and deep cuts through the hill s to the west. This loss of vegetation would be offset in part by obliterating the old section of Canyon Ferry Road and reseeding the former right-of-way.	This alternate would require more clearing than Alternate 1 but less than Alternates 2 or 4.	The affects to vegetation would be similar to those associated with Alternate 2 due to its large cut and fill sections.
Wildlife Impacts	Highway reconstruction on or near the existing alignment would result in the permanent loss of minor amounts of habitat and temporarily displace some species.	The road widening and slope modifications associated with the rebuilding on these offsets alignment would result in the permanent loss of minor amounts of habitat in areas previously undisturbed by highway construction. Wildlife species that rely upon these areas for habitat would be permanently displaced. Overall, the effects to wildlife would be minor.		
Fisheries Impacts	Impacts to aquatic resources in No Name Spring Creek and Spokane Creek as a result of the proposed highway improvements are expected to be minor. Impacts to aquatic resources in the project area would primarily result from direct disturbance associated with culvert replacement, bridge replacements, and highway fill placement.			
Threatened and Endangered Species Impacts	Reconstructing Canyon Ferry Road on any of the alignments proposed with these alternates would cause little, if any, effects to threatened or endangered species.			

TABLE 5 (page 6 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Land Use Impacts	This alternate has the potential to relocate or adversely affect the most residences and a business near the existing intersection.	This alternate would affect more farmland than Alternates 1 or 3. The resulting road's grade would be less favorable for the development of new approaches in the future.	This alternative would require the relocation of four residences and possibly a mobile home, but would not require the relocation of any businesses. Few other land use changes would be expected.	This alternate would result in impacts similar to those associated with Alternate 2.
Noise Impacts	The noise impacts associated with this alternate would be similar to existing conditions. There is a potential for increased traffic noise as some residences along the roadway because eastbound traffic on Canyon Ferry Road would no longer be required to stop. Higher travel speeds could result in increased noise levels.	This alternate would result in the least noise impacts since the new intersection would be shifted far south of the present intersection and away from noise sensitive residences.	The majority of the existing residences where noise impacts could occur would need to be relocated to accommodate the new road. The potential noise impacts of Alternate 4 would be less than those of Alternate 3 because the new road would be shifted further to the north of sensitive receptors.	
Social Impacts- Environmental Justice	This proposed intersection reconstruction would not have any significant impact on the location, distribution, density or growth rate in this portion of Lewis and Clark County. These alternates would not adversely affect any social or ethnic groups and it would not isolate or divide existing residential areas.			
Economic Impacts	This alternate would require the acquisition of one business and would convert more agricultural land than Alternates 2 or 4.	This alternate would result in a greater disruption to agricultural uses than other alternates. Although it would not directly impact any commercial buildings, Canyon Ferry Road would intersect Spokane Creek Road some distance from the present intersection. Some loss of revenue could occur if patrons no longer chose to stop at the business.	This alternate would not impact the business near the present intersection. However, it would require the acquisition of the home and outbuildings of a small ranch. Alternate 3 would have less impact to agricultural operations than Alternates 2 or 4.	Alternate 4 would not impact the business near the present intersection. However, it would bisect one ranch and require the acquisition of the home and outbuildings associated with another small ranch.

TABLE 5 (page 7 of 7)

	Alternate Intersection Configurations			
	Alternate 1	**Alternate 2**	**Alternate 3 "Preferred Action"**	**Alternate 4**
Historical and Cultural Resources	This alternate would require the reconstruction of the Helena Valley Canal Bridge located on Canyon Ferry Road east of the present intersection. Main canals and laterals associated with the BUREAU OF RECLAMATION'S Helena Valley Irrigation Unit (24LC1062) are considered historic irrigation features. The BUREAU and the SHPO agreed the proposed project would not affect the Helena Valley Irrigation Unit or affect its potential for being eligible for the National Register of Historic Places. No other cultural properties eligible for the National Register were identified that would be affected by these alternates.	No cultural properties eligible for the National Register of Historic Places would be affected by this alternate. The alternate would not affect the Helena Valley Irrigation Unit (24LC1062). The potential for encountering unanticipated cultural materials is increased as the alignment crosses generally undeveloped agricultural land.	As with Alternate 1, the Helena Valley Canal Bridge located on Canyon Ferry Road east of the present intersection would need to be reconstructed. However, the BUREAU OF RECLAMATION and the SHPO agreed the work would not affect the Helena Valley Irrigation Unit. No other cultural properties eligible for the National Register were identified that would be affected by these alternates.	
Section 4(f) and LWCF Section 6(f) Impacts	No 4(f) or 6(f) involvement would occur with any of the proposed intersection configurations. A Section 4(f) evaluation would not be necessary for effects to the Helena Valley Canal Bridge because the BUREAU OF RECLAMATION and SHPO do not believe the project would affect the Helena Valley Irrigation Unit (24LC1062).			
Visual Impacts	Reconfiguring the intersection of Canyon Ferry Road and Spokane Creek Road with the associated modifications to terrain, the addition of lighting, and removal of several residences would also be a notable change. These highway modifications would be noticeable to residents and highway users familiar with the previous roadway alignment of the road.			

IV. ENVIRONMENTAL IMPACTS AND MITIGATING MEASURES

IV. Environmental Impacts and Mitigating Measures

A. Introduction

Part IV describes the social, economic, and environmental conditions and resources affected by the proposed reconstruction of Canyon Ferry Road from Walter Drive to the project end just east of the present intersection with Spokane Creek Road. Resources likely to be affected were identified through agency contacts, literature reviews, research and field studies and public involvement activities.

This Part also discusses the potential impacts of implementing the Preferred Action and of taking no action. As indicated in Part III, the "Preferred Action" refers to the specific activities associated with the proposed Canyon Ferry Road project including the reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection. MDT does not consider the No Build Alternative as viable because it fails to meet the purpose and need for the project. However, the impacts of this alternative are being analyzed for the purposes of providing a contrast or comparison with the Preferred Action. Only the impacts with a reasonable possibility for individual or cumulative impacts are assessed under this section.

Where appropriate, measures to mitigate the adverse environmental impacts of this project are discussed at the end of each section. If the Preferred Action is advanced, then MDT will implement the mitigating measures identified in this Part.

B. Impacts to the Natural Environment

1. IMPACTS TO LANDFORMS, GEOLOGY AND SOILS

Existing Conditions. The Canyon Ferry Road project area is located in the southwestern portion of the Northern Rocky Mountains Physiographic Province of the United States and is characterized by broad intermountain valleys between major mountain ranges. The proposed project is located in the southeastern portion of the Helena Valley, a wide area west of the Missouri River. This portion of the Helena Valley is bounded by the Elkhorn Mountains to the south and the Spokane Hills and Big Belt Mountains to the north and east. The Helena Valley was formed in sediments and alluvial deposits from volcanic rocks, shale, and sandstones in surrounding uplands.

The Helena Valley is located within the Intermountain Seismic Belt, a seismically active zone associated with major geologic fault structures. This area has a history of seismic activity, including earthquakes in 1869 and 1935 (a quake that measured 6.3 on the Richter scale). Much of this area is underlain with partially consolidated sediments saturated with groundwater, which affect the probability and magnitude of ground failure and structural damage in a seismic event.

Prickly Pear Creek drains the western two-thirds of the project area with the creek itself lying immediately west of the project's beginning. Prickly Pear Creek originates from the Elkhorn Mountains several km (miles) south of the project area and flows northwesterly through this portion of the Helena Valley. Spokane Creek and its tributaries drain the eastern one-third of the project area. The divide between the Prickly Pear and Spokane Creek drainages rises more than 60 m (200 feet) above the elevation of the two valleys.

Surface elevations along this project generally increase from west to east until reaching the "divide" at about RP 5.7 and then decrease towards Spokane Creek near the project's east end. The elevation of Canyon Ferry Road is about 1,151 m (3,775 feet) at the beginning of the project and varies in elevation by no more than about 10 m (30 feet) until about Lake Helena Drive. East of this point, the highway rises to over 1,210 m (3,970 feet) in elevation where the road enters and traverses a portion of the Spokane Hills. The highway's elevation drops significantly as the road traverses the Spokane Creek drainage and increases again sharply at the intersection of Canyon Ferry Road and Spokane Creek Road. The rise in terrain of more than 35 m (115 feet) from Spokane Creek to the benchland near Keir Lane is a significant design consideration for the reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection. The highway's elevation is about 1,187 m (3,895 feet) at the east end of the proposed project.

IMPACTS OF THE PREFERRED ACTION. The reconstruction of Canyon Ferry Road would involve rebuilding an existing segment of highway across terrain and landforms located beneath and adjacent to the present road. The proposed reconstruction would involve cutting and filling to prepare a new foundation for the widened road and roadside slopes and to enhance the road's vertical and horizontal alignment. These activities would disrupt, displace, compact and cover soils not currently associated with the existing highway.

The design of the proposed project would be accomplished in a way that attempts to balance the amount of cut and fill materials within the project area. This would minimize the need for borrow sources away from the project area. Surface and subsurface materials would be disturbed at locations away from the project areas if additional material were needed to build the new roadway. Typically, MDT's contractor provides any additional material imported to construct the proposed project.

The construction activities, including clearing and grading, would increase the short-term and long-term potential for soil erosion and sediment transport. This potential for erosion and adverse sedimentation impacts would vary depending upon the amount of soil area disturbed, the nature of the soils disturbed, the steepness of slopes, the proximity of the disturbance to wetlands and surface waters, and the duration of the soil disturbances.

A Storm Water Pollution Prevention Plan (SWPPP) would be designed for the Canyon Ferry Road project and submitted to the MDEQ Permitting and Compliance Division in accordance with their Montana Pollutant Discharge Elimination System Regulations (ARM 16.20.1314). Best Management Practices, including temporary and long-term erosion control measures, would be considered in the design of the Plan. Such practices may include the use of lined channels, silt fences, ditch blocks, mulch, slope protection and other commonly accepted control measures. The SWPPP would be developed using procedures and methods established in MDT's "Erosion and Sediment Control Best Management Practices: Reference Manual" whose main objective is

to minimize erosion of disturbed areas during and after construction of these proposed projects.

In accordance with **7-22-2152** and **60-2-208, M.C.A.**, MDT would also reestablish a permanent desirable vegetation community along all areas disturbed by the proposed highway construction. MDT would develop a set of revegetation guidelines that must be followed by the contractor.

CUMULATIVE IMPACTS. The proposed reconstruction of Canyon Ferry Road would not cause any notable cumulative effects on the topography, geologic conditions or soils within the project area.

IMPACTS OF THE NO ACTION ALTERNATIVE. MDT's maintenance actions have the potential to cause minor disturbances to surface or subsurface materials within the Canyon Ferry Road project area.

Mitigating Measures (Geology and Soils Impacts)

The following measures will be implemented to minimize project-related effects on the local topography and geological conditions.

- *Clearing and grubbing operations will be restricted to the minimum area necessary to accommodate the planned reconstruction activities and improvements.*
- *To stabilize slopes and to minimize the visual effects of highway construction, roadside slopes and disturbed areas will be revegetated as soon as practicable.*
- *A Storm Water Pollution Prevention Plan (SWPPP) employing Best Management Practices for controlling erosion and sediment transport will be implemented in the project area.*

2. IMPACTS TO IMPORTANT FARMLAND

Existing Conditions. The Lewis & Clark Conservation District was contacted in August 2001 to identify important soils that may be affected by the reconstruction of Canyon Ferry Road. The *Farmland Policy Protection Act* (FPPA) (**7 U.S.C. 4201 et. seq.**) requires special consideration be given to soils that considered as prime farmland, unique farmland, or farmland of statewide or local importance by the U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICES (NRCS).

The Conservation District identified ten soils crossed by Canyon Ferry Road as “Statewide Importance,” “Prime Importance,” “Other Importance,” “Prime and Statewide Importance” and “Local Importance.” For the purposes of this EA, these soils are considered together and identified as "Important Farmland."

The following soils (listed by soil number and name) within the Canyon Ferry Road project

corridor were identified by the NRCS as being Important Farmland:

33B	**Sappington-Amesha loams** (1-4% slopes)	Prime Importance
33C	**Sappington-Amesha loams** (4-8% slopes)	Statewide Importance
137B	**Musselshell-Crago Complex** (2-8% slopes)	Local Importance
218A	**Meadowcreek-Fairway loams**	Statewide Importance
306A	**Nippt-Attewan complex** (0-4% slopes)	Other Importance
406A	**Nippt gravelly loam** (0-2% slopes)	Other Importance
413A	**Attewan loam** (0-2% slopes)	Prime and Statewide Importance
513A	**Attewan-Nippt complex** (0-2% slopes)	Statewide Importance
533B	**Sappington-Musselshell gravelly loams**	Statewide Importance
569A	**Amesha-Attewan loams**	Statewide Importance

IMPACTS OF THE PREFERRED ACTION. Of importance under the FPPA are the areas of direct and indirect conversion of Important Farmland. Direct conversions occur when soils meeting the definition of farmland are included in the proposed highway right-of-way. Indirect conversions of farmland occur when the areas remaining in a tract of land partially taken for right-of-way: 1) would no longer be capable of being farmed due to access restrictions; or (2) would likely be converted to a non-farm use due to the accessibility of the highway.

The information provided by NRCS and preliminary right-of-way plans for the proposed improvements were reviewed to determine the area of Important Farmland that would be affected by the Canyon Ferry Road project. Based on the information presented above, the construction of the proposed project would directly convert about 17.7 hectares (ha), or 43.8 acres, of soils meeting the designation of Important Farmland. The proposed project would indirectly convert about 0.35 ha (0.9 acres) of important farmland due to the reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection.

A Farmland Conservation Impact Rating form (#AD-1006) was processed for the proposed highway improvement project in accordance with the FPPA. The NRCS completed Parts II, IV, and V of the form and assigned a relative value of 65 for the farmland to be converted. MDT's consultant assigned points for the site assessment criteria in Part VI of the form and arrived at a total score of 69. The *Total Points* for the project in Part VII of the form was calculated to be 134. Since this total is less than 260 points, no further consideration for protection is necessary and no additional Important Farmland evaluations are required. The completed form was not submitted to the NRCS but a copy is provided in **APPENDIX B**.

CUMULATIVE IMPACTS. The Preferred Action, together with other ongoing and future development activities on rural lands within the Helena Valley, will continue to incrementally convert minor amounts of farmland to other uses. Commercial and residential development of this area continues to increase at a steady rate. Building a higher quality road may contribute to conversion of farmland by attracting residential and commercial development to an improved transportation facility. Over time, these cumulative conversions could represent a notable loss of Important Farmland in the county.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would not directly or indirectly convert any additional Important Farmland in the Canyon Ferry Road corridor.

Mitigating Measures (Important Farmland)

No mitigating measures are necessary or proposed since the *Total Points* for the project is less than the threshold of 260 points on form #AD-1006.

3. IMPACTS TO WATER RESOURCES AND QUALITY

Existing Conditions - Surface Water. As indicated previously, the major surface waters within the project area include Prickly Pear Creek (located west of the project corridor) and its tributaries and Spokane Creek and its associated minor tributaries. Streams originating in the Elkhorn Mountains to the south of the Helena Valley and from the Spokane Hills to the east of the Valley flow from south to north toward Lake Helena. Many of these streams pass beneath Canyon Ferry Road through culverts or under bridges as they flow towards Lake Helena and ultimately the Missouri River.

The Helena Valley Irrigation District utilizes the Helena Valley Canal system for distributing water from Canyon Ferry Reservoir to agricultural and other users. The Helena Valley Canal parallels and crosses Canyon Ferry Road at various locations throughout the project corridor. Two different sections of the Helena Valley Canal are located within the project corridor.

There are also several other active and abandoned irrigation facilities existing along the entire length of this project. Many of the facilities (irrigation ditches) have been combined over the years to improve their efficiency. Hence, the number of ditches has been reduced over the years. These facilities include bridges, ditches, culverts, siphon culverts, flow splitters, weirs, pumps, and sprinklers. With the exception of larger diameter irrigation siphons for the Helena Valley Canal, irrigation/drainage culverts typically range from 750 to 1,200 millimeters (mm), or 30 to 48 inches, in diameter. Culvert types are corrugated steel pipe (CSP) or reinforced concrete pipe (RCP) in fair to good condition.

FIGURE 7 shows existing surface waters, major irrigation features, bridges and irrigation crossings along Canyon Ferry Road.

Surface water quality is typically assessed according to the amount and kind of substances present in water, by the water's ability to support beneficial uses such as irrigation and recreation, and by the overall health of the aquatic ecosystem. The health of streams and wetlands (and other surface waters) is assessed based on the constituents dissolved in the water, the condition of the banks and associated riparian zone, and the types and numbers of plants and animals living in the water.

The *MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY* (MDEQ) has the responsibility under *Section 401* of the federal *Clean Water Act* (**33 U.S.C. 1251-1376**) and the *Montana Water Quality Act* (**75-5-101 M.C.A.**, et seq.) to monitor and assess the quality of Montana surface waters and to identify impaired or threatened stream segments and lakes. The MDEQ sets limits, known as Total Maximum Daily Loads (TMDLs), for each pollutant entering a body of water.

TMDLs are established for streams or lakes that fail to meet certain standards for water quality and describe the amount of each pollutant a water body can receive without violating water quality standards. The legislatively mandated TMDL process determines the concentration of pollutants in water bodies and stipulates controls needed to improve water quality in order to support designated uses.

Prickly Pear Creek is the only surface water in the project area to be evaluated by the MDEQ for TMDL purposes. MDEQ concluded that the stream's uses (aquatic life support, cold water fishery and recreation) are impaired by nutrients, suspended solids and thermal modifications caused by irrigated crop production, placer mining, rangeland activities, resource extraction and various industrial activities. However, Prickly Pear Creek was assigned a lower priority for development of a TMDL than another stream in the Helena Valley—Tenmile Creek.

MDEQ also issues permits to industries, agencies and others to discharge effluent into storm water and surface waters. Five Montana Pollution Discharge Elimination System (MPDES) permits have been issued by MDEQ for discharges into Prickly Pear Creek.

Existing Conditions - Groundwater. Groundwater has become an important source of water in the project area, given the limited supply of surface water in the area and concerns about its quality for certain uses. In general, groundwater quality in the project area is considered good, yet some cases of contamination have occurred.

The Helena Valley aquifer is comprised of discontinuous, heterogeneous alluvial and lacustrine deposits, with isolated clay and silt lenses that are continuously saturated from the water table to a depth of at least 150 m (about 500 feet).

This aquifer is the sole source of drinking water for nearly 28,000 citizens—approximately 55 percent of the population in the Helena Valley. Drinking water is supplied to these residents from over 5,000 domestic wells and 60 public water supply systems.

Groundwater information from the MONTANA BUREAU OF MINES AND GEOLOGY was obtained from the Internet (www.nris.state.mt.us) to identify the depth of groundwater at water wells drilled in the project area. Well data was retrieved for 25 properties abutting the project within the area of interest with the dates of well installations ranging from 1970 to 2001. Static water levels recorded at the time of installation ranged from the most shallow at 4.6 m (15 feet) to the deepest at 21.3 m (70 feet). Average static water elevation from the well data is 13.1 m (43 feet) at the time of well installation.

IMPACTS OF THE PREFERRED ACTION ON SURFACE WATERS. Erosion and sedimentation during construction and surface runoff after construction would be the principle ways that water quality could be affected by the proposed highway reconstruction project. Unless preventative measures are taken, erosion and sedimentation and highway runoff have the potential to affect water quality and aquatic resources.

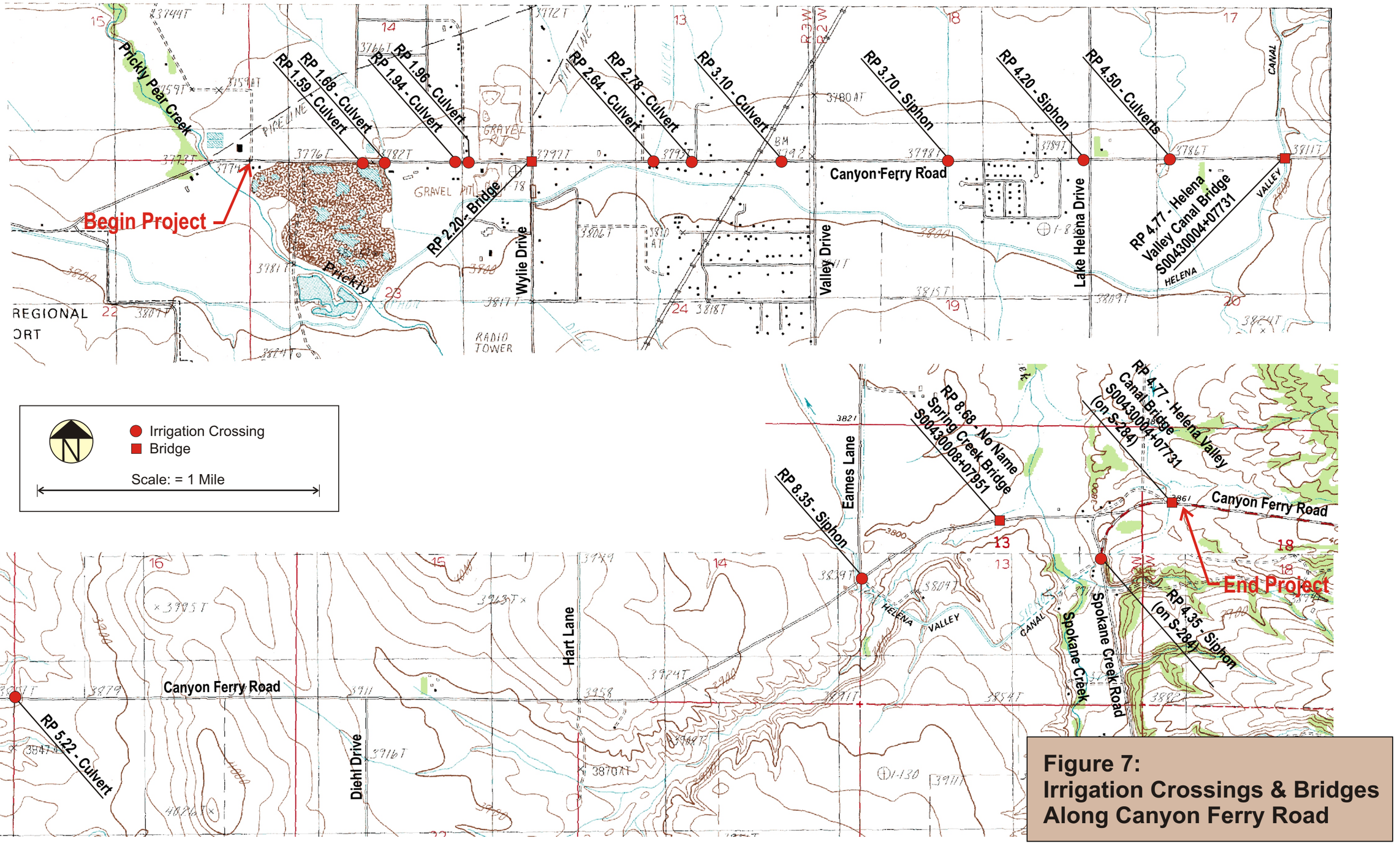


Figure 7:
Irrigation Crossings & Bridges Along Canyon Ferry Road

As indicated earlier, vegetation clearing and grading for the proposed highway and bridge construction would increase the potential for soil erosion and sediment transport. Additionally, lengthening or replacing culverts and reconstructing adjacent roadway approaches would expose soils and increase the potential for erosion. Although erosion occurs naturally to some extent, the erosion of areas disturbed by the construction could contribute additional sediments to surface waters. Increased sediment loads, particularly for a long duration, may alter downstream deposition patterns, cause water temperatures and turbidity levels of the water to rise, increase the level of nutrients (nitrates and phosphorus), and promote the growth of algae.

Because MDT's Storm Water Pollution Prevention Plan (SWPPP) would be implemented to control erosion and sediment transport during and after the proposed project, the proposed reconstruction of Canyon Ferry Road would not cause notable adverse effects on surface water quality. Because the area of soil disturbances for this project would exceed 0.4 ha (1.0 acre), a NPDES storm water permit administered by the MDEQ would be required. MDT would develop a SWPPP for this project to meet permit requirements.

Potential water quality impacts can also occur due to highway runoff during the operational life of the road improvement project. The primary constituents in highway runoff include suspended sediments (pavement wear and dirt), lead (gasoline, tire filler), zinc (tire filler, motor oil stabilizers), copper (metal platings, brake linings), and petroleum (gasoline, antifreeze, hydraulic fluids). Salting and sanding practices, for example, may leave concentrations of chloride, sodium, and calcium on the roadway surface. Impervious road surfaces produce runoff amounts proportional to the pavement area. Rural roadways with gravel shoulders and ditches tend to slow runoff through absorption into adjacent vegetation and soils.

During the mid-1980s, the FHWA conducted extensive nationwide studies to determine highway runoff constituents, amounts relative to roadway types and traffic conditions, and the potential impacts to surface water resources *(Pollutant Loadings and Impacts from Highway Stormwater Runoff, Volume* I, FHWA, April 1990). FHWA's research concluded that pollutants in highway runoff are not present in amounts sufficient to threaten surface or groundwater where Average Daily Traffic (ADT) volumes are below 30,000. Since traffic volumes in the Canyon Ferry Road corridor are expected to be variable within the corridor and range from 3,200 to 12,900 vehicles per day by the design year (2024), it can be reasonably concluded that runoff from the highway would not cause significant degradation of surface or groundwater in the project area.

Fill placement and associated drainage installation work within stream channels may be needed at the highway crossings of No Name Spring Creek and Spokane Creek for the installation of culverts. Road reconstruction would also encroach on a section of No Name Spring Creek (RP 8.68) that parallels the south (right) side of the new highway. This highway encroachment would require rerouting a section of the stream. Work in or near streams in the project area would require *124SPA* Stream Protection Permits from the MONTANA DEPARTMENT OF FISH, WILDLIFE & PARKS (MDFWP). Likewise, the placement of any fill material in surface waters or wetlands would be subject to the issuance of Section 404 permits by the U.S. ARMY CORPS OF ENGINEERS (COE). These and other permit requirements are discussed at the end of this Part.

IMPACTS OF THE PREFERRED ACTION ON GROUNDWATER. The storm water infiltration system proposed for the commercial/residential section where curbs and gutters

would be installed could potentially affect groundwater hydrology in the area. Lewis and Clark County's records of septic tank installations and groundwater information from the MONTANA BUREAU OF MINES AND GEOLOGY reviewed for this EA suggests that the installation of this system would adhere to MDEQ guidelines for offsets to septic drainfields and wellheads. The infiltration systems would also be buried to a depth at least 1.525 m (5 feet) above groundwater levels in the vicinity of the installations. Additional work must be accomplished during the design of the project to establish the locations of drainfields and wells in the areas where infiltration systems are proposed and to determine the depth to groundwater in nearby wells.

Groundwater hydrology in the remaining project areas would be unaffected by the proposed highway improvements since necessary excavation would not expose or affect the groundwater table. The rural portion of the proposed project would have no direct adverse impacts to groundwater or public or private drinking water supplies derived from groundwater sources.

CUMULATIVE IMPACTS. The proposed improvements to Canyon Ferry Road, together with the impacts of present and reasonably foreseeable future developments in the area, would not cause any notable cumulative effects on the quality or quantity of surface or groundwater in the project area. MDT's engineered road design and the application of upland best management practices (BMPs) would avoid or mitigate potential water quality impacts in the general vicinity of this project.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would not cause any new effects on surface water or groundwater in the project area.

Mitigating Measures (Surface and Groundwater Resources)

The following measures will be implemented to minimize water quality impacts in the Canyon Ferry Road project area.

- *A Storm Water Pollution Prevention Plan (SWPPP) employing Best Management Practices for controlling erosion and sediment transport will be implemented in the project area.*
- *Any restrictions on work near streams or in wetlands will be specified as terms of water-related permits obtained from the MDEQ, MDFWP, and the CoE.*
- *Development of a revegetation plan, erosion control plan, and storm water pollution prevention plan will be coordinated with appropriate permitting and resources agencies.*
- *Installation of the storm water infiltration system in the project's curb and gutter section would follow MDEQ guidelines for offset to septic drainfields and well heads.*

4. FLOODPLAIN IMPACTS

Existing Conditions. Executive Order No. 11988 and FHWA's floodplain regulations (23 CFR 650, Subpart A) require that the proposed action be evaluated to determine the effects of any encroachments on the "base" floodplain. The base floodplain is the area covered by water from the 100-year flood. The 100-year flood represents a flood event that has a 1 percent chance of being equaled or exceeded in any given year. The Executive Order requires that federal agencies, in carrying out their proposed projects, provide leadership and take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains.

Large floods in Lewis and Clark County are typically the result of heavy rainfall combined with snowmelt, although in some areas rainfall or snowmelt alone can be the cause of flooding. Historic records show that widespread flooding occurred on most major streams in the County, including Prickly Pear Creek, during 1908, 1964, 1975, and 1981. Rapid snowmelt events in 1982, 1985, 1996, and 2003 also caused flooding problems at various locations along Canyon Ferry Road.

The FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) prepared detailed floodplain maps for Lewis and Clark County in 1981 and revised them in 1985. The 1985 revisions were updated on June 17, 2002 to incorporate new approximate flood hazard information for Prickly Pear Creek Overflow, Silver Creek, Spokane Creek, and Trout Creek. The revised Flood Insurance Rate Maps (FIRM's) described Spokane Creek and Prickly Pear Creek 100-year and 500-year floodplains. FIRM panels #1570, #1575, #1544, #1542, and #1541 identify delineated floodplains within the project corridor. **FIGURE 8** shows floodplains in the Canyon Ferry Road project area from its beginning of the project to just east of Valley Drive.

The FIRM's identify three overflow branches of Prickly Pear Creek floodplain crossing Canyon Ferry Road between the beginning of the project and Lake Helena Drive. These branches are identified as the East Branch of Prickly Pear Creek, the North Overflow of Prickly Pear Creek, and the Valley Drive Branch of Prickly Pear Creek. A 100-year floodplain, known as the Lake Helena Drive Branch, crosses the existing highway alignment just east of Lake Helena Drive.

The East Branch, North Overflow, Valley Drive Branch and Lake Helena Drive Branch of the Prickly Pear Creek floodplain flow northerly, intersecting the Helena Valley Canal prior to crossing the proposed alignment. Field reviews of the Helena Valley Canal revealed siphons beneath the canal, concrete drainage chutes into the canal, a concrete overchute, and headgates both into and out of the canal.

Canyon Ferry Road crosses the Spokane Creek floodplain, delineated by approximate methods, near the east end of the project.

IMPACTS OF THE PREFERRED ACTION. The existing floodplain situation within the Canyon Ferry Road between the project's beginning and Lake Helena Drive is extremely complex due to the level terrain, the presence of existing commercial and residential

development, and the fact that this area is subject to sheet flow type flooding. The Helena Valley Canal also presently functions as both a barrier to flood flows and as a relief channel for transporting floodwater out of this portion of the project area. These conditions pose serious design constraints for the new highway and its associated drainage features.

This proposed project would result in transverse encroachments on delineated floodplains at four locations and longitudinal encroachments at three locations. The Preferred Action would replace existing drainage features at or near their present locations to ensure that floodwater is accommodated and managed without major changes that could adversely impact nearby residents and uses. Where possible, the proposed project would attempt to enhance existing drainage conditions.

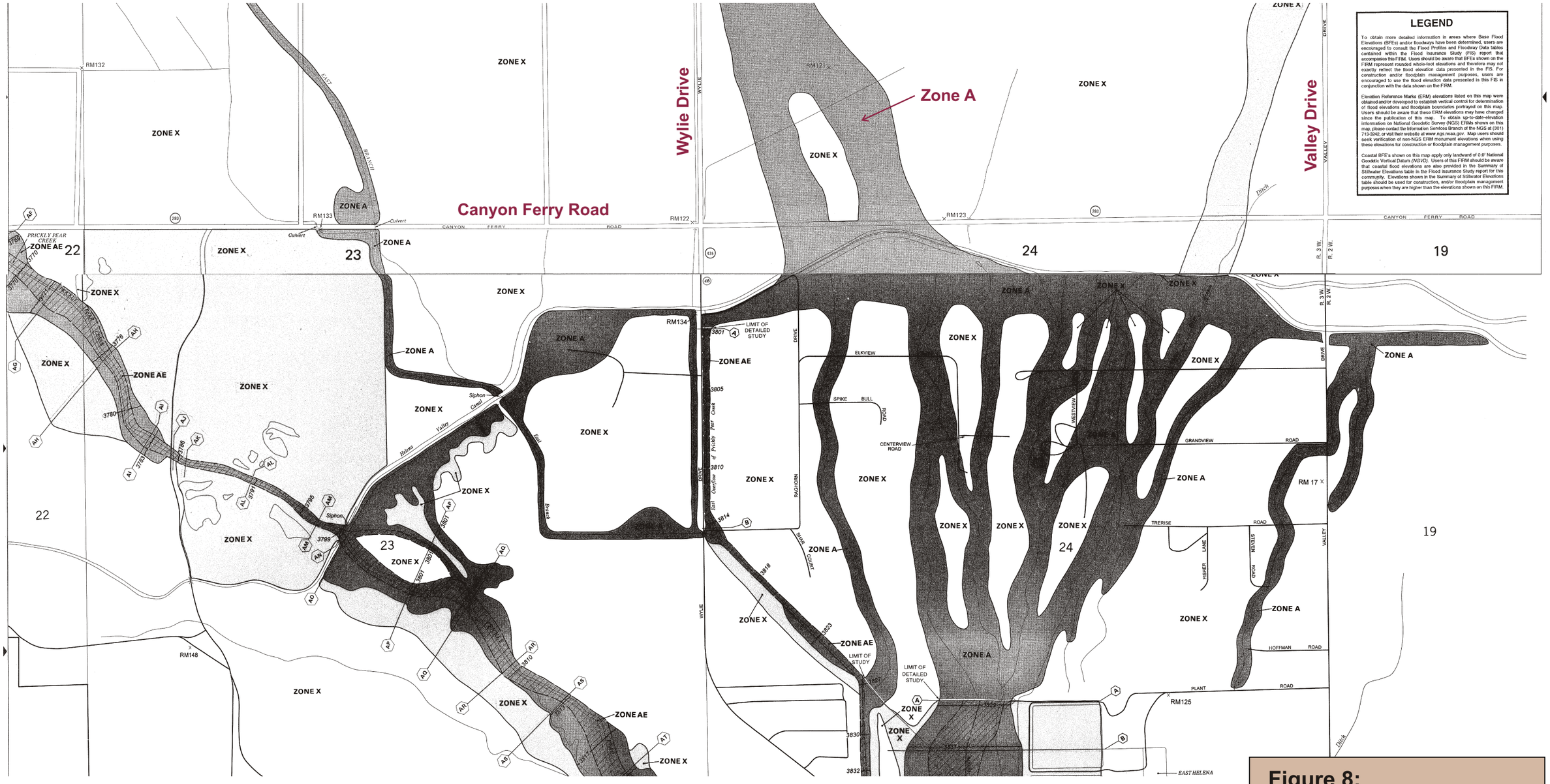
The Preferred Action would place fill and require work within the stream channel for the installation of new drainage culverts at No Name Spring Creek and within the delineated floodplain of Spokane Creek. However, the new culverts would be appropriately sized to handle the anticipated flood flows without interruption to public transportation due to flood damage to the roadway. MDT standard procedures and specifications would be employed to ensure that the required floodplain encroachment meets FHWA guidelines.

A floodplain permit from Lewis and Clark County would be required prior to construction in designated floodplains in the Canyon Ferry Road project area.

Between Wylie Drive and Lake Helena Drive, the project corridor consists of residential build-up with some commercial developments. Widening Canyon Ferry Road in this area would eliminate the existing roadside ditches in this area. Although they are steep and do not meet current safety and design criteria, the roadside ditches provide storm runoff storage and assist with minor flood control. Few natural outfalls exist to transport storm water runoff in the commercial/residential section of the corridor and the existing natural outfalls are shallow with slight rolling grades. Storage capacity appears limited and extensive work would be required far outside the project limits to get drainage channels to adequately drain.

Two possible remedies for the lack of adequate outfalls have been considered. Detention ponds could be developed to hold stormwater or buried infiltration galleries could be incorporated to satisfy storm design runoff storage needs. Detention ponds would likely require the acquisition of easements and development/maintenance within residential properties. Due to the greater right-of-way acquisition needs, potential aesthetic problems, and safety concerns posed by detention ponds, the recommendation has been made to incorporate a subsurface infiltration system to satisfy highway storm water runoff management needs in the commercial/residential section of the project corridor.

The relatively flat drainage features of the project area require subsurface disposal of storm water. Subsurface disposal of storm water would be accomplished by allowing runoff to infiltrate through a layer of gravel or soil or by direct discharge into a dry well. It is important to note that storm water would not be expected to pollute groundwater since the water would be "filtered" naturally as it seeps through subsurface materials. This would be similar to the existing situation since storm water runoff is contained and filtered through the soil in isolated roadside



From: Firm Panels #1542 and #1544

Figure 8:
Floodplains in Vicinity of Canyon Ferry Road

ditches. This system would be expected to help preserve flows in streams, recharge groundwater, reduce peak runoff flows, and reduce sediment in area surface waters.

The Preferred Action would not promote or encourage development within the base floodplain or increase flood liability hazards from its construction. Therefore, the Canyon Ferry Road project is considered to be in compliance with Executive Order 11988 and meet floodplain management criteria.

CUMULATIVE IMPACTS. The project would have no cumulative impacts on the floodplain of the project area because of MDT's design considerations for the replacement bridges and road reconstruction.

No cumulative floodplain impacts are anticipated from this proposed project and the other known or reasonably foreseeable development in the project area considered in this EA (see projects identified in Section **13. Secondary and Cumulative Effects** later in this Part). This proposed project and other development projects with floodplain encroachments must comply with the County's floodplain management guidelines and would be subject to review and permitting by local government. The issuance of a floodplain permit by the County does not mean that there would be no impacts to floodplains.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would have no new effects on the project area floodplain. There are no risks of new flooding, no impacts on natural and beneficial floodplain values, and no likelihood of incompatible floodplain development.

Mitigation Measures (Floodplain Impacts)

The following measure will be implemented to minimize potential floodplain impacts in the Canyon Ferry Road project area.

- *MDT will obtain a floodplain Development Permit from Lewis and Clark County for construction activities within the delineated floodplains of the project area.*

5. AIR QUALITY IMPACTS

Existing Conditions. Air quality within the project area can be described as good. No violations of state or federal air quality standards are known to have occurred within the Canyon Ferry Road corridor.

Violations of federal and state air quality standards have occurred within the East Helena area due to emissions from the Asarco smelter. The operation of the smelter resulted in violations of air quality standards for lead and sulfur dioxide. Areas that violate federal or state air quality standards are designated nonattainment areas by the U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA). These violations occurred with sufficient frequency and resulted in nonattainment area designations being for East Helena for lead and sulfur dioxide emissions. Communities with

nonattainment areas are responsible for developing air pollution control strategies to bring the area into compliance with air quality standards.

Canyon Ferry Road is located about 1.6 km (1 mile) north of the boundary of the federally designated East Helena Lead Nonattainment Area, which includes the Town of East Helena and its immediate surroundings. Additionally, a portion of the project area is about 5.6 km (3.5 miles) north of the East Helena Sulfur Dioxide Nonattainment Area. The sulfur dioxide nonattainment area covers a localized area south of the Town of East Helena at the site of the Asarco smelter.

Federal and state air quality standards have not been exceeded in the area since 1996 and the primary source of lead and sulfur dioxide pollution in the area, the Asarco lead smelter, has since closed.

Other sources of air pollution in the area include dust generated by traffic on unpaved roads in the area, agricultural activities and from occasional outside burning.

IMPACTS OF THE PREFERRED ACTION AND THE NO ACTION ALTERNATIVE.
Despite its proximity to the East Helena Lead and Sulfur Dioxide nonattainment areas, this proposed project is located in an "unclassifiable"/attainment area of Montana for air quality under 40 CFR 81.327, as amended. As such, this proposed project is not covered under the EPA's **Final Rule** of November 24, 1993 on Air Quality conformity. Therefore, this proposed project complies with *Section 176(c)* of the *Clean Air Act* **(42 U.S.C. 7521 (a))**, as amended.

This road reconstruction project would involve actions whose individual and cumulative effects would be minor and would not affect regional emissions. Neither the Preferred Action nor the No Action Alternative would be expected to result in adverse air quality impacts.

Short-term air quality impacts would be anticipated during construction of the proposed project due to the disturbance of relatively large areas and operation of heavy equipment in work zones. Road construction activities would result in emissions of particulate matter, volatile organic compounds (VOCs), and odors as a result of ground disturbance, vehicle exhaust, and use of new surfacing materials. These impacts would be minor and limited to the construction period.

CUMULATIVE IMPACTS. Improving traffic flow on Canyon Ferry Road would help reduce the cumulative impacts of automobile emissions in the area. Automobiles typically emit greater amounts of carbon monoxide, volatile organic compounds and other pollutants when they are running in idle.

Mitigation Measures (Air Quality)

The following measure will be implemented to minimize any air quality impacts associated with the construction of MDT's proposed project.

- *MDT will incorporate dust control measures into the plan's specifications for the proposed project.*

6. IMPACTS TO VEGETATION

Existing Conditions. From the beginning of the project to Lake Helena Drive, the project traverses a flat valley bottom that has undergone extensive residential and commercial development over the past 20 years. Few-if-any native vegetative communities remain intact through this area. Common roadside ditch species include crested wheatgrass, smooth brome, Kentucky bluegrass, yellow sweet clover, common mullein, and spotted knapweed. Residential landscaping through this section includes various ornamental flowers, native and introduced trees and shrubs, and manicured bluegrass lawns. Species common along the numerous irrigation ditches that flow under the roadway through this section include milkweed, smooth brome, yellow sweet clover, asparagus, rose, and various wetland plants.

Within the rural portion of the corridor, the highway traverses rolling terrain through dry-land crop and grazing land. Some native rangeland exists through this area, although a majority has been disturbed by agricultural practices and on-going residential development. Alfalfa production is common near Lake Helena Drive and in the vicinity of Spokane Creek near the project's eastern terminus. Wheat and hay production is common in the non-irrigated land through much of this segment. Native rangeland plant communities found in the project area are comprised primarily of sagebrush, blue grama, Idaho fescue, wheatgrass, cheatgrass, licorice, and prickly pear. Crested wheatgrass and smooth brome are the dominant grasses found in roadside ditches through the rural section of the project.

Near the projects eastern terminus, the highway crosses over Spokane Creek and an unnamed spring-fed drainage. Wetland plant species can be found along Spokane Creek and the spring-fed drainage west of Spokane Creek. Narrow-leafed cottonwood, wild rose, and snowberry occur along both drainages.

Threatened or Endangered Plants. The U.S. FISH AND WILDLIFE SERVICE (USFWS) lists water howellia and Ute ladies'-tress orchid as threatened plant species in Montana under the *Endangered Species Act* (**16 U.S.C. 1531-1543**). Habitat for water howellia does not occur in the project area. According to the Biological Resources Report, potential habitat for Ute ladies' tresses exists in project area wetlands; however, the nearest known occurrence of this plant is south of Townsend in Broadwater County.

Rare or Sensitive Plants. A search of the MONTANA NATURAL HERITAGE PROGRAM (MNHP) database revealed two known occurrences of plant species of concern within 8 km (5 miles) of the project (MNHP 2001). These include wedge-leaved saltbush and small yellow lady's slipper and were for locations over 3 km (2 miles) from this proposed action. These plants were not identified in the Canyon Ferry Road corridor during field studies performed for this project.

Invasive/Noxious Plants. Executive Order 13112, *Invasive Species*, signed on February 3, 1999, addresses federal agency responsibilities with respect to invasive species (noxious weeds). As a partially federally funded action, the project is subject to the provisions of the Executive

Order. According to the Invaders Database System (2001), 15 noxious weeds have been identified in Lewis and Clark County over the last 20 years including: hoary cress, diffuse knapweed, spotted knapweed, Russian knapweed, oxeye daisy, Canada thistle, field bindweed, hound's-tongue, leafy spurge, orange hawkweed, dalmation toadflax, sulfur cinquefoil, tall buttercup, tamarix, and common tansy. Most of these weeds are Category 1 noxious weeds as defined by the MONTANA DEPARTMENT OF AGRICULTURE. Orange hawkweed and tamarix are Category 2 noxious weeds.

Spotted knapweed, Russian knapweed, hoary cress, and Canada thistle were identified in the project area by MDT's consulting biologists during field visits. Only individual plants or small infestations of these weeds were noted along much of the project.

IMPACTS OF THE PREFERRED ALTERNATIVE. The proposed highway improvements would result in the permanent loss of vegetation where the roadway is realigned or widened. The vegetation lost due to this proposed project would primarily involve non-native grasses species and residential landscaping on both sides of the road in the commercial/residential section of the corridor. At some locations, reconstruction would impact or even result in the removal of some ornamental flowers and shrubs, lawns, and introduced trees at residences along this portion of the corridor.

Within the rural section, the extent of vegetation lost would be greater due to the proposed minor shift in the location of Canyon Ferry Road. Minor amounts of native rangeland, cropland supporting alfalfa, wheat and hay production, grazing land, and riparian and wetland vegetation would be lost due to road reconstruction.

Virtually all of the proposed construction would occur in areas immediately adjacent to the existing road already subjected to other sources of human disturbances, including residential, recreational, and agricultural (farming, grazing) activities. Consequently, the overall effects of the proposed project on vegetation communities would be minor.

The proposed highway reconstruction project would not affect Ute ladies' tresses (a federally-listed threatened species) or any rare and sensitive plants.

Temporary disturbances would occur where vegetation is cleared from the right-of-way permit or easement areas, at staging areas for construction equipment and at borrow sites. Many noxious weed species gain a foothold after ground disturbances; therefore the potential for the spread of noxious weeds is a concern due to the extent of the disturbances associated with the proposed projects. Once noxious weeds become established, they are often extremely difficult and very expensive to eradicate or control. Invasive noxious weeds can reduce the value of an area for rangeland, wildlife habitat, or other uses.

In accordance with Executive Order No. 13112, MDT would implement measures with this project to help prevent the introduction of invasive species into the Canyon Ferry Road corridor. These measures would include coordinating the projects with the Lewis and Clark County Weed Control District, promptly reseeding disturbed areas, and requiring MDT's contractor(s) to follow procedures to prevent the spread of noxious weeds.

CUMULATIVE IMPACTS. Ground disturbing activities from the proposed road reconstruction and other present and future development in the project area and other portions of the Helena Valley could result in the loss of minor amounts of native vegetation and offer the potential for the spread of noxious weeds.

IMPACTS OF THE NO ACTION ALTERNATIVE. This Alternative would cause no further impacts on vegetation within the project area.

Mitigation Measures (Vegetation Impacts)

The following measures will be implemented to minimize vegetation impacts and reduce the potential for the spread of noxious weeds in the project area.

- *Clearing and grubbing operations will be restricted to the minimum area necessary to accommodate the planned reconstruction activities and improvements and utility relocations.*
- *Disturbed areas will be reseeded as quickly as possible.*
- *A revegetation plan will be developed for this project to be followed by the contractor. The plan will include specifications on seeding methods, seeding dates, types and amounts of mulch and fertilizer, and seed mix components. The plan will also be submitted to the Lewis and Clark County Weed Control District for review.*
- *The contractor must also follow the requirements of the County Noxious Weed Management Act and all county and contract noxious weed control provisions.*
- *Construction equipment must be cleaned prior to beginning work and after the completion of work in the project area to avoid the unintentional introduction of noxious weed seed from other sites.*
- *Mulch used for revegetation will be certified as weed-free.*

7. IMPACTS TO WETLANDS

Existing Conditions. Land & Water Consulting, Inc. delineated wetlands in the project area during September 2001 according to criteria and methods outlined in the U.S. ARMY CORPS OF ENGINEERS (COE) *1987 Wetlands Delineation Manual* (Environmental Laboratory, 1987). The manual provides guidance for determining the presence of jurisdictional wetlands based on observations of vegetation, soils, and hydrology. Wetland location maps, found plant species lists, and COE Routine Wetland Determination forms were completed for wetland sites identified within the corridor. Additionally, MDT Field Evaluation forms were completed to assess the many functions and values attributable to wetlands. These materials are included in the Biological Resources Report prepared for this project.

The wetlands evaluation was conducted for all wetlands in the preliminary right-of-way corridor of MDT's currently proposed alignment for Canyon Ferry Road. Six primary wetland areas (Sites 1 through 6) were delineated in the analysis area adjoining the present highway.

Wetland Sites 1 through 4 are associated with either the Helena Valley Canal or other irrigation ditches in the valley west of Lake Helena Drive and consist of narrow (less than 1 m (3 feet) wide) fringes occurring along the banks of the ditches. These fringe wetlands are dominated by emergent and wet meadow species including meadow foxtail, reed canary grass, and redtop. Wetland Site 5 is located in the vicinity of No Name Spring Creek (RP 8.68) and consists of a large spring-fed wetland complex with a defined channel and mixture of emergent marsh, wet meadow and forested wetland habitats. Dominant species within this site include reed canarygrass, field horsetail, beaked sedge, bulrush, broad-leafed cattail, foxtail barley, redtop, meadow foxtail, and other common wetland species. Wetland Site 6 is directly associated with the active Spokane Creek channel and floodplain near RP 9.0. The site consists of a narrow wetland fringe along the banks of the creek and supports wetland vegetation similar to that in Site 5. Mature cottonwood trees can be found in both Sites 5 and 6.

A total of 3.18 ha (7.84 acres) of wetlands were delineated at the wetland sites within the Canyon Ferry Road project corridor. The majority of these wetlands are rated Category IV according to MDT's Wetland Assessment Method. This means that most wetlands in the project area provide little in the way of wildlife habitat, surface water storage, flood attenuation, production export/food chain support and groundwater discharge. Wetlands associated with Site 5 and with Site 6 are primarily rated as Category III wetlands.

IMPACTS OF THE PREFERRED ACTION. Construction of the proposed highway improvements would result in unavoidable encroachments into wetlands, streams and irrigation canals at some locations in the Canyon Ferry Road corridor. These encroachments would result from realignments, road widening, slope flattening, new bridge or culvert installations over streams and canals and associated detours around bridge or culvert installations. Wetland vegetation would be removed and hydric soils would be covered with the roadbed and fill slopes in impacted areas. The preliminary design of the proposed highway project has been developed to minimize encroachment into wetlands. However, at some locations wetlands exist on both sides of the highway making it impossible to improve the road or replace bridges and culverts without encroaching on wetlands.

Based on preliminary design plans for this project, the amount of wetlands that would be directly impacted by the proposed reconstruction of Canyon Ferry Road would be about 0.60 ha (1.5 acres).

The "jurisdictional" status of affected wetlands in the area is an important consideration for this proposed project because of MDT's mitigation requirements. Jurisdictional wetlands are those that fall under the COE jurisdiction with respect to *Section 404* of the *CLEAN WATER ACT*. Generally, the COE maintains jurisdiction over non-isolated wetlands that are hydrologically-charged by irrigation seepage as long as the seepage is considered "normal circumstances" for the wetlands created by the water source. The COE does not generally maintain jurisdiction over wetlands in artificially irrigated areas unless: the wetland has additional hydrological sources; the wetland is of significant regional or local value; or elimination of the irrigation could not be

accomplished in the near future.

According to 1995 published guidance, the COE generally did not consider ditches excavated on dry land as jurisdictional "waters of the United States." However, the Omaha District of the COE recently issued guidance to the effect that excavated irrigation and drainage ditches may be considered jurisdictional if they have a downstream surface connection to other waters of the U.S.

As a result of a January 9, 2001 U.S. Supreme Court decision, many isolated wetlands (those not connected or adjacent to other waters of the U.S.), which previously fell under COE jurisdiction, are now unregulated for *Section 404* purposes.

Based on these considerations, MDT's consulting biologists concluded that wetlands within the project corridor associated with the Helena Valley Canal or its associated laterals are jurisdictional for *Section 404* purposes because water supplies are annually discontinued and there are no naturally flowing streams that contribute directly to flows in the canal. Wetlands associated with No Name Spring Creek and Spokane Creek are "jurisdictional" wetlands.

Minor, short-term impacts to wetlands would occur in the vicinity of No Name Spring Creek and Spokane Creek due to the need to provide detours and temporary stream crossings during the installation of new culverts. Detours during the construction of new bridges across the Helena Valley Canal would also result in similar impacts to fringe wetlands along the canal.

CUMULATIVE IMPACTS. The potential exists for other highway reconstruction projects and developments in the Helena area and adjoining counties to impact wetlands. However, cumulative impacts to wetlands would be minimized if efforts are taken to avoid wetlands or to adequately mitigate for wetlands affected by ongoing and future development activities.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would cause no further impacts to most wetlands within the project area. However, impacts to the stream crossing at No Name Spring Creek are foreseeable in the near future. This would result from MDT's obligatory maintenance to replace the structurally deficient bridge with a large diameter culvert. This would result in the placement of minor amounts of fill into Wetland Site 5.

Mitigation Measures (Wetland Impacts)

The *1990 Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines* requires that wetland mitigation be addressed in the following sequence:

(1) Avoid potential impacts to the maximum extent practicable.
(2) Minimize unavoidable impacts to the extent appropriate and practicable.
(3) Compensate for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required.

- **Avoidance and Minimization.** To the extent possible, the proposed alignment for this reconstruction project has been developed to avoid impacts on wetland sites. However,

since the existing roadway is located adjacent to and crosses wetlands, totally avoiding wetlands is not possible. Roadside development through much of the corridor has established the alignment of this road and MDT's proposed reconstruction would occur on or very near the existing alignment over most of the project's length.

Steepening roadside fill slopes is one measure that can be employed to reduce impacts to wetlands. Although MDT's design is only in the preliminary stage, the use of steepened slopes in the vicinity of wetlands will be considered and incorporated into the project where possible. The greatest benefits of using steepened fill slopes would be in the vicinity of wetland Sites 5 and 6.

- **Compensation.** Compensatory mitigation for the projected wetland loss will be required and developed in compliance with the 1996 MDT Interagency Wetland Group operating procedures. Although no specific wetland mitigation sites have been identified yet at this early stage of the project, wetland creation/restoration opportunities may exist on private lands near Sites 5 and 6. MDT may also have sufficient wetland "credits" from past mitigation efforts in the watershed that could be applied to this project.

The following measures will be implemented to minimize impacts to wetlands in the project corridor.

- *The design for the proposed highway improvements project will be developed to avoid or minimize encroachment into wetlands.*
- *MDT will seek to mitigate unavoidable wetland impacts in the immediate vicinity of this proposed project.*
- *A Storm Water Pollution Prevention Plan (SWPPP) employing Best Management Practices for controlling erosion and sediment transport will be implemented in the vicinity of project area wetlands.*

8. IMPACTS TO THREATENED OR ENDANGERED WILDLIFE

In accordance with *Section 7(a)* of the *Endangered Species Act* (**16 U.S.C. 1531-1543**), MDT contacted the USFWS for a list of endangered, threatened, proposed, and candidate species that could occur in the project area. MDT's consulting biologists assessed whether or not any of the Federally-listed threatened or endangered (T/E) wildlife species or important habitat for the species occur in the project area. MDT's Biological Resources Report concluded that three threatened, endangered, proposed, or candidate, species may occur in the vicinity of the proposed Canyon Ferry Road project. These species and other pertinent information about habitats and is presented in **TABLE 6**.

TABLE 6: Species, Habitat, and Potential Occurrence of T/E Species in the Canyon Ferry Road Project Area		
Species **Federal Status**	**Important Habitat**	**Potential Occurrence**
Bald Eagle (*Haliaeetus leucocephalus*) threatened*	Coniferous forest, cottonwood riparian, aquatic areas	Primarily winter resident, but could occur year-round, several active nests within 10 km (6.2 miles) of project area.
Mountain Plover (*Charadrius montanus*) proposed threatened	Shortgrass prairie, flat topography	Not known to occur in the project area, habitat marginal.
Black-tailed Prairie Dog (*Cynomys ludovicianus*) candidate species	Shortgrass and mixed grass prairie	Not known to occur in the project area, none observed in vicinity.

* On July 6, 1999, the bald eagle was proposed for removal from the Federal List of Endangered and Threatened Wildlife. The bald eagle remains protected as a threatened species until de-listing is final.

IMPACTS OF THE PREFERRED ACTION. Impacts to threatened and endangered species can be categorized as direct or indirect effects and such effects may be short-term or long-term. Direct effects are results of the proposed action. Direct effects may include loss of habitat and mortality of individuals. Indirect effects are effects caused by the proposed action that are reasonably certain to occur. Primary indirect effects include potential disturbance and displacement of individuals, decrease in reproductive success, and habitat degradation. For many species, the magnitude of effects would depend on the timing and duration of construction activities.

The potential impacts associated with reconstructing Canyon Ferry Road on identified threatened and endangered species are described below.

- **Bald Eagles.** The "Habitat Management Guide for Bald Eagles in Northwestern Montana" prepared by the Montana Bald Eagle Working Group in 1991 defines three primary zones associated with bald eagle nests. The *nest site area* includes the area within 400 meters (0.25 mile) of the existing and alternate nests. Eagles are most sensitive to human activity within this zone, and will react to intrusion. The *primary use area* includes the area heavily used by a nesting pair, or an 800 m (0.5 mile) radius from the occupied and alternate nests. The *home range* represents all areas used by the eagles during the nesting season. In the absence of site-specific data, the area within a 4 km (2.5 mile) radius should be considered as a minimum home range.

  The proposed Canyon Ferry Road reconstruction project does not fall within the home range of any active bald eagle nests. However, several active nests are known to occur within 10 km (about 6 miles) of the project. Additionally, a stretch of Hauser Lake below Canyon Ferry Dam to the northeast of this project is a well-known concentration area for bald eagles that congregate to feed on spawning kokanee salmon between October and December. As many as 300 eagles have been documented below Canyon

Ferry Dam in past years, with peak numbers typically occurring in late November (MNHP 2001).

Considering the high number of eagles within 10 km (about 6 miles) of the project, it is probable that bald eagles periodically pass through the project area and may spend time near the highway, especially in the Spokane Creek area where roost and perch trees are available. Bald eagles may also periodically hunt for small prey or feed on carrion in the open fields and pastures between Lake Helena Drive and Spokane Creek.

Direct impacts to bald eagles as a result of the highway improvements are expected to be minimal. However, due to potential year-round presence of bald eagles along the project route, construction activities during all seasons could conceivably temporarily disturb or displace eagles where the project is visible from nesting, roosting and foraging habitat. However, because the areas and duration of disturbance would be relatively confined and occur in an already disturbed corridor, and undisturbed similar habitat for displaced birds is common in the surrounding area, these impacts are not considered substantial.

If traffic volumes or speeds increase in the project area as a result of the improvements, an indirect impact would be the potential for increased vehicle-related mortalities, since bald eagles often feed on road-killed animals. Widening the highway and improving its alignment would also be expected to increase the ability of motorists to see eagles on or near the highway and to maneuver to avoid eagles and other wildlife.

Another possible indirect effect is that road construction at the stream crossings has some potential for affecting water quality (e.g., increased sedimentation) and the associated aquatic community, including fish availability, a prime food source for bald eagles. However, such impacts are unlikely, and (if any) would be temporary. The power lines adjacent to the highway present some potential for electrocution of bald eagles and other raptors. Since some power lines adjacent to the highway may be moved to accommodate the widened highway, the potential for electrocution should be considered an indirect impact related to the projects.

- **Mountain Plover.** The MNHP has no records of mountain plovers occurring near this reconstruction project. Mountain plover habitat in the project vicinity is very limited to a small amount of native shortgrass prairie near the projects eastern terminus. No prairie dog towns, a habitat historically preferred by the species, were identified adjacent to the proposed project. Due to lack of quality breeding habitat in the project area, mountain plovers are not expected to occur in the project vicinity.

  As no mountain plovers are know to use habitat in the vicinity of Canyon Ferry Road through the project area, no impacts are anticipated regardless of final construction limits. The potential does exist, depending upon final construction limits, to degrade a limited amount of suitable mountain plover breeding habitat.

- **Black-tailed Prairie Dog.** No prairie dog towns were identified adjacent to the proposed project during the field reconnaissance surveys. Additionally, recent surveys for prairie dog towns in the Helena Valley by the MNHP found no towns within several miles of

Canyon Ferry Road. Due to the extreme distance from the nearest known colony, dispersal by prairie dogs into the area is considered improbable.

As no black-tailed prairie dog towns exist in the vicinity of Canyon Ferry Road through the project area, no impacts to black-tailed prairie dogs are expected as a result of the proposed highway improvements. The potential does exist, depending upon final construction limits, for suitable prairie dog habitat to be impacted by the proposed action.

CUMULATIVE EFFECTS. Past land use activities in the Canyon Ferry Road corridor are not known to have resulted in any harm to listed threatened, endangered, proposed for listing or candidate species. Because similar activities are likely to continue into the foreseeable future, adverse cumulative effects to bald eagles, mountain plover, and black-tailed prairie dog would not be expected. No notable cumulative effects to bald eagle use of the project corridor or surrounding areas are expected to result from implementing the proposed project, if spatial and temporal construction restrictions are applied on future projects when warranted.

Cumulative/indirect impacts associated with the proposed action may result from increased human development in the general project area which could remove or degrade habitat for mountain plover and blacktail prairie dogs.

DETERMINATION OF EFFECTS. The Biological Assessment in MDT's Biological Resources Report concluded that the proposed reconstruction of Canyon Ferry Road would have "**no effect**" on the threatened bald eagle or the black-tailed prairie dog. It was also determined this proposed highway project would "**not likely jeopardize the continued existence of**" the mountain plover.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Build Alternative would result in no new impacts to bald eagles, mountain plovers, or black-tailed prairie dogs.

Conservation Measures (Threatened or Endangered Species)

Since little, if any, potential exists for effects to the mountain plover or the black-tailed prairie dog as a result of the project, no conservation measure are recommended for these species. Given the seasonal presence of bald eagles near the project area and their expanding range in Montana, the implementation of the following conservation measures will ensure that adverse impacts to bald eagles are minimized or avoided:

- *The project managers for the construction of the proposed highway projects will contact an MDT biologist to assess the overall status of bald eagles in the project area prior to beginning work. Spatial, and/or time of work restrictions may be necessary if bald eagle nests are established in the project area prior to construction.*

- *Overhead power lines relocated during construction will be raptor-proofed in accordance with "Suggested Practices for Raptor Protection on Power Lines" (Olendorff et al. 1981).*

- *The location of construction-related activities, such as staging and borrow/gravel source activities, will be reviewed by an MDT biologist prior to construction relative to their possible impacts to bald eagles.*

- *Best Management Practices (BMPs) will be followed to minimize the potential for increasing sediment loads in any of the project area waterways.*

9. IMPACTS TO OTHER WILDLIFE AND FISHERIES RESOURCES

Existing Conditions. According to MDT's Biological Resources Report, wildlife habitat between the beginning of the project and Lake Helena Drive is limited due to the extensive development has occurred in this area over time. Despite the development, several 1 to 4 ha (2 to 10 acre) undeveloped parcels still exist, thus providing limited habitat for a variety of small mammals, such as skunks, cottontails, Columbian ground squirrels, red fox, voles, and mice. Near the beginning of the project, white-tailed deer are occasionally seen utilizing habitat associated with Prickly Pear Creek, and mule deer are also occasionally seen near the beginning of the project, using habitat near the gravel pit operated by Helena Sand & Gravel. This large gravel pit, partially filled with ground water, also provides habitat for numerous species of waterfowl and shore birds.

The large irrigated fields immediately east of Lake Helena Drive attract pronghorn antelope, mule and white-tailed deer, fox, and feeding waterfowl in the fall. The dryland crops and pastureland between Lake Helena Drive and the end of the project support small numbers of antelope, deer, and small rodents, which are preyed upon by red fox, coyotes, and various raptors. The Spokane Creek drainage at the project's eastern terminus provides the only major area of wetland and riparian habitat within project limits. Wildlife species associated with these habitats include various songbirds, raptors, mule and white-tailed deer, small mammals, and herptiles.

Amphibians likely to occur near wetland and riverine habitats within the project area include the long-toed salamander, western toad, and spotted frog. Painted turtles, rubber boa, racer, western rattlesnake, gopher snake, and garter snakes are reptiles likely to inhabit the project area.

Between 1991 and 1995, the Montana Bird Distribution Committee (MBDC 1996) compiled observations of 187 bird species within the area encompassed by this project. Much of the species diversity is likely due to the presence of the Missouri River and Canyon Ferry, Hauser and Holter Reservoirs within the general area. An extensive list of possible species occurring in the project area is not presented here. However, birds commonly seen in the project area include waterfowl and shorebirds near the Helena Sand and Gravel pit; woodpeckers, flycatchers, warblers, raptors, finches, grouse and thrushes along Spokane Creek and western meadowlarks, sparrows, crows, ravens, magpies, bluebirds, and blackbirds in various other habitats represented along the project route.

According to the Montana River Information System (MRIS), Spokane Creek has been assigned a final fisheries resource value of "moderate." Fish species present in Spokane Creek include

rainbow trout, brown trout, mountain whitefish, and kokanee salmon. Fish species present in Spokane Creek may also occur in limited numbers in No Name Spring Creek. The Helena Valley Canal and its associated laterals are not managed as fisheries and would not be subject to permitting under the *Montana Stream Protection Act*.

IMPACTS OF THE PREFERRED ACTION ON WILDLIFE. In general, the impacts on wildlife associated with the proposed Canyon Ferry Road reconstruction project would include: the temporary loss of and avoidance of habitats adjacent to the construction area; direct mortality from vehicles and construction equipment; and permanent habitat degradation and/or displacement.

The minor shifts in alignment in the rural section of the corridor, road widening, and slope flattening associated with the proposed highway improvements on wildlife would result in the permanent loss of minor amounts of habitat adjacent to the roadside. Additionally, wildlife species that rely upon these roadside areas for habitat would be temporarily displaced during construction due to noise and human activities.

The anticipated loss of wildlife habitat in the project area is not considered especially deleterious to wildlife species because most losses would likely occur immediately adjacent to the existing road. Additionally, the types of habitat that would be lost are common in the general vicinity of this project. Displacement of species in most cases would be a temporary adverse effect.

Construction activities could also result in mortalities of some less mobile wildlife species if individuals are unable to escape construction equipment. More mobile species, such as adult deer, coyotes, and most adult birds, would be able to avoid direct mortality by moving into adjacent lands.

The existing highway, in association with adjacent farm and ranching practices, recreational activities and residential development, is a contributor to habitat fragmentation in the project area. Because the new road would continue to be a two-lane facility and be only slightly wider than the existing highway, impacts from increased fragmentation are considered to be minor.

Once construction is finished, the improved road could result in fewer collisions with wildlife because motorists would have improved stopping sight distance and more time to react to wildlife movements within the highway corridor. However, the improved highway may result in increased traffic and speed, and thus increase the potential for vehicle collisions with big game, small mammals, and birds. Some level of vehicle/wildlife mortality is largely unavoidable with road use. Such collisions are not likely to affect local wildlife populations.

IMPACTS OF THE PREFERRED ACTION ON AQUATIC RESOURCES. Impacts to aquatic resources as a result of the proposed highway improvements are expected to be minor. Impacts to aquatic resources in the project area would primarily result from direct disturbance associated with culvert replacement, bridge replacements and associated detours, and highway fill placement. General clearing and grubbing would occur adjacent to portions of No Name Spring Creek and Spokane Creek. In addition, fill placement and work within stream channels would be required at the highway crossings of No Name Spring Creek and Spokane Creek for the installation of culverts and any associated channel revisions. Road reconstruction would also

encroach on a section of No Name Spring Creek that parallels the south (right) side of the new highway. This highway encroachment may cause minor and temporarily adverse effects to aquatic resources.

Construction activities would result in temporary increased erosion potential, reduced slope stability, and could temporarily increase turbidity in project area streams, particularly during precipitation events. Water quality could be indirectly affected over the short term by the influx of fuel and other pollutants from unpaved surfaces during storm events, which could temporarily affect stream productivity in the immediate project area. Increased exposure of soils in the project area would provide a continuing source of sediment into the local system during precipitation events until stabilized.

Increases in turbidity, suspended sediment, and other pollutants can reduce stream productivity, reduce feeding opportunities for fish, and result in fish avoidance of important habitat. Deposited sediments reduce habitat volume by filling pools and intergravel spaces, which are critical to young fish. Culvert and bridge replacement along the project could result in temporary turbidity increases by disturbing stream banks or beds and re-suspending existing sediments in the water column.

CUMULATIVE IMPACTS. No adverse cumulative effects to wildlife or fisheries are anticipated as a result of the proposed road reconstruction project and other present and future development activities in the project area. However, ongoing and future development in the project area and Helena Valley is expected to result in the minor incremental losses of habitat with associated minor adverse effects to wildlife and fish species.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would cause no further impacts to wildlife, fisheries, or aquatic resources in the Canyon Ferry Road project area. Highway maintenance activities could temporarily displace species near the construction activities or disturb roadside areas causing minor losses of habitat. Under this alternative, MDT may be obligated to replace the structurally deficient bridge at No Name Spring Creek with a large diameter culvert. This action would likely result in minor effects to aquatic resources in this stream.

Mitigation Measures (Wildlife and Fisheries Impacts)

MDT will implement the following measures to ensure that adverse impacts to wildlife and aquatic species are minimized or avoided.

- *Best Management Practices (BMPs) will be followed to minimize the potential for increasing sediment loads in any of the project area waterways.*
- *Disturbed areas will be reseeded as quickly as possible after construction.*
- *A revegetation plan will be developed for the highway project to be followed by the contractor.*
- *In stream work associated with the channel change and culvert replacements at No Name Spring Creek or and Spokane Creek will be coordinated with the*

MDFWP to minimize effects to fisheries resources in these surface water.

C. Impacts to the Human and Cultural Environment

1. LAND USE IMPACTS

Land Ownership and Land Use. With the exception of lands associated with the Helena Valley Canal administered by the U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION and small tracts owned by local governments, all lands within the Canyon Ferry Road project corridor are privately owned.

Between the project's beginning and Lake Helena Drive, these lands have been developed with residential and commercial uses interspersed with minor agricultural lands, industrial developments, storage facilities and a variety of small commercial businesses. The most notable industrial uses in this portion of the project corridor are large gravel pit operations and a ready mix. Other businesses in this area include a gas station/convenience store, a restaurant (near the Wylie Driver intersection), an automobile repair shop, storage facilities and other miscellaneous small businesses. East of Lake Helena Drive, lands adjacent to Canyon Ferry Road have been developed with scattered rural residences and subdivisions and large irrigated and non-irrigated farms and ranches. One restaurant/lounge exists near the eastern terminus of the project.

Applicable Land Use Plans and Controls. The Lewis and Clark County Comprehensive Plan guides the use of lands in the general project area and the County Commission is responsible for implementing the Plan.

A Plan for the Helena Valley Planning Area is provided in the Lewis and Clark County Comprehensive Plan. The Plan identifies three types of development areas - urban growth areas, transitional growth areas, and rural areas. Urban Growth Areas are those areas where city services to support residential, commercial and industrial development are most likely to be extended over the next twenty to twenty-five years. Transitional Growth Areas are those areas that are suitable for urban development over a longer term but are generally not contiguous to existing urban development. Rural Areas are areas outside Urban and Transitional Growth Areas, where rural levels of public infrastructure and services will sustain future development.

According to the Plan for the Helena Valley Planning Area, lands between the beginning of the project and Lake Helena Drive lie within a designated Transitional Growth Area and lands east of Lake Helena Drive are in a designated Rural Area.

Development approval should be conditioned upon the ability of the developer to provide or pay for all necessary on-site and off-site improvements and infrastructure. Infrastructure extensions should be sized to accommodate demands of anticipated growth. Low-density development should be designed to allow urban levels of development in the future.

Lewis and Clark County has enacted subdivision regulations but has not established zoning regulations for project area lands within designated Transitional Growth or Rural Areas.

IMPACTS OF THE PREFERRED ACTION. The proposed reconstruction of Canyon Ferry Road would affect lands adjoining the highway to varying extents due to the need to acquire additional right-of-way and expand the highway corridor. Such impacts are unavoidable due to the need to widen the roadway to accommodate turning lanes and shoulders, adjust the alignment of the road to eliminate substandard horizontal and vertical curves, and relocate conflicting utilities away from the highway.

The preferred reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection would require the relocation of four residences and possibly one mobile home located adjacent to the existing highway. Other than the changes of land use at these residential properties, the Preferred Action would not cause notable changes to existing land uses along Canyon Ferry Road.

Impacts to agricultural land uses would include the acquisition of cropland and pasture land for new highway right-of-way and modifications to field access locations. Generally, access to farm fields or pastures from the new roadway would be maintained, although the location of access points may be moved to ensure adequate sight distance is provided along the new road.

The implementation of limited access control within the project corridor could result in some existing accesses being relocated, combined or even closed. However, the access management provisions implemented with this project would ensure that reasonable access is maintained for all properties and land uses adjoining the highway.

The Canyon Ferry Road project would not affect any state land; however, the project would affect an easement for the Helena Valley Canal held by the BUREAU OF RECLAMATION.

The proposed reconstruction of Canyon Ferry Road would not conflict with the goals and policies contained in Lewis and Clark County's Comprehensive Plan.

CUMULATIVE IMPACTS. Subdivision of rural lands in Lewis and Clark County, like many areas of western Montana, is on the increase and expected to continue. Much of the project area has already experienced steady residential and commercial growth and development or several years even though the existing highway has not seen major improvements.

The proposed Canyon Ferry Road project may indirectly contribute to further growth and development in the Helena Valley by providing a route that would make commuting to and from Helena easier. While this is a possibility, there are too many other factors that promote growth to make accurate predictions about where and when such growth may occur. The factors include items such as the general economy, land prices, tax levels and the existence of services and infrastructure. Current land use planning policies of the County encourage new development to locate in areas like the project corridor where county services and infrastructure exist to better accommodate growth.
Any potential impacts would be tempered somewhat by the fact that Canyon Ferry Road would be improved on or near its existing alignment and with relatively limited modifications. Reconstructing the road would not substantially change the character of the much of the project

area or cause current property owners and developers to build faster or any differently than they would have without the proposed highway improvements. The proposed action would not provide new access to lands project area and would enhance traffic operations and add capacity primarily within the commercial/residential section of the project corridor.

The Preferred Alternative and other known or reasonably foreseeable projects may indirectly contribute to incremental conversion of farmland in the Helena Valley to other uses.

IMPACTS OF THE NO ACTION ALTERNATIVE. This would cause no changes to existing land uses in the project area.

Mitigation Measures (Land Use Impacts)

No mitigating measures are proposed for land use impacts associated with this proposed project. Measures to mitigate the impacts of new right-of-way acquisition are discussed in the following section.

2. RIGHT-OF-WAY AND UTILITY IMPACTS

Existing Conditions. Lewis and Clark County originally constructed Canyon Ferry Road and no right-of-way plans or "as-built" information appears to exist. Research indicates the existing right-of-way for Canyon Ferry Road has never been recorded by deed over the project's length. Therefore, the assumption was made the existing road was developed within an 18.3 m (60 foot) wide right-of-way easement over the length of the project as provided for by Montana statute (**7-14-2112, M.C.A.**). Many certificates of survey have recorded this easement; however, field reviews indicate that existing fence lines vary from this presumed width.

The existing right-of-way on Spokane Creek Road in the vicinity of its intersection with Canyon Ferry Road is typically a minimum of 36.6 m (120 feet) and is held in fee by the MDT.

Overhead power lines, underground telephone cables, gas, buried fiber optic and other utility lines exist adjacent to the roadway throughout most of the Canyon Ferry Road corridor. A high-voltage overhead electrical transmission line crosses the existing corridor between Wylie and Valley Drives.

Residential and commercial properties throughout the corridor utilize wells as a source of domestic water and individual sewage disposal systems with septic drain fields to manage wastewater.

IMPACTS OF THE PREFERRED ACTION. Canyon Ferry Road would be reconstructed following its existing centerline from the project's beginning to east of Lake Helena Drive. New right-of-way acquisition would affect lands on both sides of the existing road in the commercial/residential section of the corridor. East of Lake Helena Drive, the road's location would be offset slightly from the existing alignment right-of-way from either the north or south side of the existing roadway, depending on location, for most of this segment's length.

Preliminary design plans would require the acquisition of an additional right-of-way averaging about 10.7 m (35 feet) to each side of the roadway within the residential/commercial section of the corridor between the project's beginning and Wylie Drive. The proposed curb and gutter section between Wylie Drive and Lake Helena Drive would likely require an additional 5.0 m (15 feet) of new right-of-way to each side of the road. Right-of-way needs within the rural section of the project would vary due to the planned minor alignment shifts. The additional right-of-way is necessary to accommodate road widening, adequate clear zones, and utility relocations throughout the project corridor.

Based on preliminary right-of-way plans, the reconstructed highway would occupy a total gross right-of-way area of about 67.0 ha (165.6 acres). This total includes an area of approximately 16.9 ha (41.8 acres) of presumed county road easement for Canyon Ferry Road and its associated features and about 40.4 ha (99.8 acres) of additional land beyond the present road corridor.

MDT would also need to secure construction permits at various locations within the project corridor. Construction permits are commonly acquired (purchased) from landowners if there is a need to use some adjoining land during construction, but no permanent road feature would be maintained by MDT after construction. The permit is similar to "renting" land from a property owner for a stipulated period of time. Landowners may request construction permits from MDT for portions of backslope reconstruction, road approach reconstructions that extend more than 15 m (about 50 feet) beyond the right-of-way or for realignment or reconstruction of drainage facilities.

Note the right-of-way areas presented above are subject to change since MDT has only completed a set of preliminary Right-of-Way plans for the proposed project. During the design process, MDT would identify specific right-of-way needs from lands along the proposed alignment of Canyon Ferry Road. Well ahead of construction, MDT would contact each affected landowner regarding the acquisition of new land needed for the highway and remedies for right-of-way effects to the remainder of their property. The permanent new right-of-way for Canyon Ferry Road would be acquired and owned by MDT.

The Preferred Action would require the relocation of four or five residences to accommodate reconstruction of the Canyon Ferry Road and Spokane Creek Road intersection. The owners of these residences have already been advised of this possibility by MDT's design consultant.

The acquisition of land or improvements for highway construction is governed by state and federal laws and regulations designed to protect both the landowners and taxpaying public. Landowners affected are entitled to receive fair market value for any land or buildings acquired and any damages as defined by law to remaining land due to the effects of highway construction. This action will be in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Polices Act* of 1970 (**P.L. 91-646** as amended), (**42 U.S.C. 4601**, et. seq.) and the *Uniform Relocation Act Amendments of 1987* (**P.L. 100-17**).

Prescriptive, temporary, or permanent easements for existing highway right-of-way deemed unnecessary by MDT as a result of the proposed project would revert to underlying landowners. Any excess rights-of-way held in fee by MDT that were acquired with federal highway funds,

would be offered to a federal agency or made available for sale at fair market value.

Overhead power lines and buried utilities would be in conflict with the proposed highway reconstruction at various locations. MDT's design consultant conducted a Subsurface Utility Engineering (SUE) Phase I investigation to determine accurate locations for buried natural gas lines, television and communication lines, and public water lines. The SUE investigation identified numerous instances within the project area where the proposed highway reconstruction would conflict with existing underground utilities. The owners of conflicting utilities would be required to relocate their facilities prior to the proposed road construction. A Phase II subsurface locate would be performed as necessary during the development of the design for the proposed project.

Comments heard from property owners during public involvement activities indicate that the proposed highway reconstruction could result in impacts to existing septic tanks and drainfield systems. Since records documenting the locations of these facilities on properties fronting the highway are limited, additional work and landowner coordination must be done to identify the locations of such features and to assess potential options for mitigating impacts.

Additionally, relocation of a short section of the Helena Valley Canal is necessary along the south side of the highway near RP 2.3 just east of Wylie Drive to accommodate the proposed roadway features and to ensure the canal does not present a hazard to highway users. A new easement for the relocated section of the canal must be acquired from the adjoining landowner at this location. The BUREAU OF RECLAMATION has indicated that reconstruction of the Helena Valley Canal should occur between October 1 and April 1 to ensure the uninterrupted delivery of water to canal users.

The BUREAU OF RECLAMATION has also stated that clear span bridges must replace existing bridges over the Helena Valley Canal. Bridge construction activities that would not disrupt or otherwise affect the flow of irrigation water could be accomplished outside October 1 to April 1 timeframe specified by the agency. Letters documenting the coordination to date with the BUREAU OF RECLAMATION and the Helena Valley Irrigation District regarding the proposed relocation of the canal can be found in **APPENDIX B**.

CUMULATIVE IMPACTS. Except for the limited loss of land and residences adjacent to the highway, no other cumulative impacts are foreseen from the proposed action. The utility relocations that would be required could potentially motivate utility providers to update or otherwise improve their facilities within the corridor.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would not require any additional right-of-way or affect existing utilities in the Canyon Ferry Road project area.

Mitigation Measures (Right-of-Way and Utility Impacts)

The following measures will be implemented to minimize the right-of-way and utilities impacts associated with the proposed highway improvements

- *MDT's Right-of-Way design for the project will attempt to minimize the area*

required for the new highway and potential effects on adjoining landowners. Temporary construction permits will be used when feasible to minimize the need for new right-of-way.

- *MDT will incorporate clear span bridges for new bridge crossings of the Helena Valley Canal and accomplish construction work for the relocation of the Helena Valley Canal between October 1 and April 1 to ensure uninterrupted deliver of water to users.*

- *MDT and its design consultant for this project will continue to coordinate right-of-way needs with Lewis and Clark County, affected property owners, and other interests.*

- *MDT will coordinate with the appropriate utility companies to determine the timing and details of relocating conflicting utilities.*

- *MDT's design consultant will coordinate further with landowners along Canyon Ferry Road to identify potential conflicts with individual septic and drainfield systems and to determine suitable remedies for unavoidable impacts to such systems.*

3. TRANSPORTATION/CIRCULATION IMPACTS

Existing Conditions. As described in detail in Part II, the existing Canyon Ferry Road and bridges (including their approaches) have physical deficiencies that contribute to reduced safety and convenience for users of this route. This highway presently serves as the primary roadway for visitors to Canyon Ferry Reservoir and its surrounding recreational lands. The highway also functions as a principal route for farm-to-market needs and travel by area residents, business persons, and visitors in this part of the Helena Valley.

IMPACTS OF THE PREFERRED ACTION. The reconstruction of Canyon Ferry Road would provide traffic safety benefits and a more efficient facility for local residents, commercial and agriculture operations and visitors. Road design and construction would address identified safety issues by: increasing the width of the roadway; reconfiguring a dangerous major intersection; adding traffic signalization and lighting; flattening and straightening its vertical and horizontal alignment; adjusting grades and horizontal curves to improve sight distance; providing a new driving surface; managing access; and incorporating other safety measures. These measures would help to reduce the frequency and severity of accidents on this important local facility. The highway would be reconstructed to MDT standards that reflect designs appropriate for both the type and level of traffic using this traffic facility.

No long-term changes to overall travel patterns would be likely due to the reconstruction of the highway. This is due to the fact that Canyon Ferry Road is one of few major east-west travel routes through the Helena Valley, thereby limiting choices for motorists. Traffic volumes on the road would not be expected to increase substantially in the short-term as a result of

reconstruction. However, traffic is expected to continue increasing in the future with or without the proposed project based on recent population growth trends for the Helena area.

CUMULATIVE IMPACTS. Though the proposed highway reconstruction project would not directly contribute to new or undesirable growth in the Canyon Ferry Road project area, it may indirectly lead to such impacts because providing a route that would make commuting to and from Helena easier may attract additional residential and commercial development. However, there are too many other factors that promote growth to make accurate predictions about how much, where, and when such growth may occur.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would not change current operational conditions on Canyon Ferry Road. The anticipated traffic increases on the route would decrease the operational efficiency of the facility and could create a greater likelihood for traffic conflicts between various highway users. The accident rate and severity within the commercial/residential section of this route are already well above the statewide averages. Unless corresponding facility improvements are made to accommodate expected growth in traffic, little progress towards reducing the frequency or severity of accidents can be accomplished.

Mitigation Measures (Transportation/Circulation Impacts)

The following measures will be incorporated into the proposed project to minimize impacts to traffic and circulation:

- *MDT will maintain traffic through the project area during construction by allowing continued use of the road or providing crossovers and by installing detours and temporary structures at the sites of the proposed bridge or major culvert replacements.*
- *MDT will maintain access to properties adjacent to Canyon Ferry Road and intersecting roads and approaches throughout the construction period.*
- *MDT will attempt to minimize delays to traffic during construction.*

4. SOCIAL IMPACTS/ENVIRONMENTAL JUSTICE

Existing Conditions. The project area is located in an unincorporated portion of Lewis and Clark County. Lewis and Clark County's population was estimated to be 55,716 according to the 2000 Census (March 21, 2001 data release; http://ceic.commerce.state.mt.us/C2000/PL2000/index.htm). The County's population surged from 47,495 people in 1990—an increase of about 15 percent. Historical population data for the county shows a steady increase in residents since 1930.

Projections of population obtained from the MONTANA DEPARTMENT OF COMMERCE (MDOC) Census and Economic Information Center suggest the County's total population will continue to grow over the foreseeable future. According to the 2002 Regional Economic Projections Series,

issued in August 2002 by NPA Data Services, Inc., the population of Lewis and Clark County is projected to increase to about 63,900 residents by the year 2010, 68,370 by 2015 and reach 77,750 by the year 2025. (http://ceic.commerce.state.mt.us/Demog/project/NPAallcounties90-25.pdf).

Detailed population and socio-economic data for residents of Lewis and Clark County is periodically collected and distributed by the U.S. BUREAU OF THE CENSUS and the Montana Census and Economic Information Center of the MDOC. Based on data from these sources, the following characteristics are evident for residents of Lewis and Clark County:

- Minorities were estimated to comprise about 4.8 percent of the County's population as of the date of the 2000 Census.
- About 11.7 percent of the County's residents were over the age of 65 as of the date of the 2000 Census.
- The 1998 median household income was estimated to be $38,091.
- The estimated per capita personal income for County residents was $25,153 in 2000.
- An estimated 12.3 percent of all County residents lived below the poverty line in 1998.
- The average household size was 2.38 persons at the time of the 2000 Census.

IMPACTS OF THE PREFERRED ACTION. This Preferred Action would not have any significant impact on the location, distribution, density or growth rate of the area's population. Although several residential relocations would be necessary, the proposed action would not adversely affect any social or ethnic groups and it would not isolate or divide existing residential areas. This project would not create disproportionately high and adverse human health or environmental effects on minority and low-income populations (Executive Order No. 12898). The proposed project complies with the provisions of *Title VI* of the *Civil Rights Act* (**42 U.S.C. 2000d**, as amended) under the FHWA's regulations (23 CFR 200).

This alternative would provide traffic safety benefits and more efficient facility for road users through the construction of a wider roadway, provision of auxiliary lanes for turning, traffic signalization and lighting, and the enhancement of sight distance within the corridor. These improvements are expected to result in decreases in the number of accidents within the project area. In addition, the wider paved shoulders associated with the Preferred Action would improve safety for pedestrians and bicyclists using the roadway.

The proposed action would indirectly benefit local school districts by improving the route used to transport students to area schools and mail delivery service along Canyon Ferry Road. Similarly, the improvement of this route may benefit the providers of emergency services by slightly reducing response times from Helena to outlying areas of the east Helena Valley.

CUMULATIVE IMPACTS. The planned highway improvements would not result in any cumulative effects on the overall population of the project area or to any particular social or ethnic groups. As indicated previously, Lewis and Clark County's population has steadily increased for many decades. Improving highway facilities in the area would not, by itself, significantly increase population nor encourage development.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would not require the acquisition of land and would not displace households, businesses, or other areas used for human activities. Taking no action would not influence population growth or distribution in or near the project area. The No Action Alternative would not adversely affect any social or ethnic groups and it would not isolate or divide existing residential areas. This alternative would not create disproportionately high and adverse human health or environmental effects on minority and low-income populations

Mitigating Measures (Social Impacts/Environmental Justice)

- *MDT will purchase properties needed for right-of-way acquisition and provide relocation assistance to affected property owners.*

5. ECONOMIC IMPACTS

Existing Conditions. The economy of Lewis and Clark County is diversified with state and local government, professional services and retail business, hospital and health services, real estate and finance, construction, and manufacturing being the principal industries. In 1999, services comprised the largest industry in the County followed by state and local government and retail trade (*BUREAU OF ECONOMIC ANALYSIS*, BEA Regional Facts BEARFACTS, 1989-1999).

Employment in non-farm industries (services, state and local government, retail trade, etc.) comprise the largest industrial sector in the County's economy. Of the estimated 38,121 full and part-time jobs in the County in 1999, non-farm industries accounted for about 98% of the total employment (Regional Ecomonic Information System (REIS) for Lewis and Clark County, U.S. Bureau of Economic Analysis, 1999). The largest employers (with 700+ employees each) in the County during 2000 were the State of Montana, the federal government, the Helena School District, and St. Peters Hospital (MDOC internet data –http://commerce.state.mt.us/ceic/business/majoremp00.htm).

Farms and ranches in the county primarily produce grain (winter wheat, spring wheat, oats and barley), hay, and livestock (cattle, sheep, and hogs). According to the 1997 Census of Agriculture, the number of farms in the County decreased about 20 over the 1987 through 1997 period, while the average size of farms in the county increased by over 200 acres. The BEA's BEARFACTS publication indicates that the transportation and public utilities was one of the slowest growing industrial sectors in Lewis and Clark County over the 1989-1999 period, while the fastest growing industrial sector in the County was construction.

The City of Helena is the seat of government and the economic center of Lewis and Clark County. The community including the surrounding valley provides the principal place of residence for about 84 percent of the County's population and is the principal place where many goods and services are purchased. The incorporated Town of East Helena, located about 3.2 km (2 miles) south of the project corridor, also serves as a community and economic center in the east Helena Valley.

IMPACTS OF THE PREFERRED ACTION. The most apparent economic impact of this alternative is the need to acquire new right of way from adjacent landowners. About 26.6 ha (65.78 acres) of additional right-of-way would need to be acquired to construct the Preferred Alternative. Right-of-way acquisition would permanently remove a minor amount of residential, commercial, and agricultural land from production and taxes paid on the land to Lewis and Clark County would be lost. This loss in property tax revenue would be expected to have a negligible effect on revenues for the County.

Improved safety for road users would decrease the potential for serious motor vehicle accidents. The associated economic costs associated with treating victims of fatal and injury accidents would be decreased accordingly.

Access management would maintain reasonable access to all residents and businesses within the corridor. The implementation of access management within the corridor is not expected to result in substantial changes in property values. Literature on the subject has shown that property values often remain stable or may increase along roadways that carry significant traffic volumes so long as the traffic can flow smoothly with a minimum of congestion and conflicting movement. Access management in the Canyon Ferry Road project area would help address significant traffic safety concerns and enhance the operation of the roadway resulting in benefits to adjoining properties.

The Preferred Action would not cause any long-term changes in the economy of the project area or of Lewis and Clark County. There would be no commercial relocations or no land acquisitions that would affect the viability of existing agricultural operations or commercial businesses within the Canyon Ferry Road corridor.

Temporary jobs would be created during the construction of the proposed project. Also, the demand for local goods and services (food, lodging, recreation, etc.) in Helena and East Helena could be increased due to the presence of workers temporarily living in the area. These beneficial economic impacts would be sustained over period(s) when the highway reconstruction is implemented. Local spending by workers during road construction activities may cause a slight increase in the local tax revenues. This impact would likely be small and short-term.

CUMULATIVE IMPACTS. The cumulative economic impacts of the proposed road reconstruction and bridge replacement project would be negligible. Reconstructing the road would not cause more people or businesses to move to the project area.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would not require any new right-of-way and would not displace any residents or businesses. However, the No Action Alternative offers no relief to identified traffic safety concerns in the area. Further deterioration of highway safety conditions (likely with additional travel on the route) may contribute to increases in the incidence of traffic accidents and result in greater economic losses to users of the facility from accidents.

Mitigating Measures (Economic Impacts)

The following measures will be implemented to minimize any economic impacts of the proposed project:

- *MDT will maintain traffic through the project area during construction.*
- *Access to lands adjacent to the project will be perpetuated during construction.*

6. NOISE IMPACTS

Ambient Noise Levels. In July 2002, Big Sky Acoustics, LLC completed a traffic noise assessment based on field measurements of ambient noise levels and current and projected design year traffic for the project corridor. The noise assessment was completed following guidelines from MDT's *Traffic Noise Analysis and Abatement: Policy and Procedure Manual, June 2001* and FHWA's *Procedures for Abatement of Highway Traffic Noise and Construction Noise*.

As part of this work, ambient (existing) noise levels were monitored at four representative properties adjacent to the existing road (RP 3.1, RP 3.8, RP 5.3, and RP 8.0) for a period of one-hour on different dates during August, September and October 2001. The measured distances from the existing road's centerline at these locations varied from 26 m (85 feet) to about 45 m (147 feet).

Field measurements showed that ambient morning or evening peak hour Leq(h) noise levels in the project corridor range from 56 dBA at a distance of about 45 m (147 feet) to 60 dBA at a distance of 26 m (85 feet) from the road's centerline. Leq(h) refers to equivalent, steady state sound level which, in a stated period of time (one-hour), contains the same acoustic energy as the time-varying sound level during the same period. The term dBA represents decibels measured with a frequency weighting corresponding to the A-scale on standard sound level meters. The "A-weighted" scale filters or removes sounds frequencies undetectable by the human ear.

The noise consultant employed a noise model to predict traffic noise levels at noise-sensitive receptors (residences, groups of residences, and churches) located within 150 m (490 feet) from the existing road's centerline. Based on the results of the actual noise level measurements, the FHWA's Traffic Noise Model (TNM) Version 1.0 computer program was used to predict the ambient traffic noise levels at 62 noise receptors within the project area. To verify the accuracy of the TNM, the computer model was also used to predict ambient noise levels at the four representative locations where actual noise levels were measured. The measured and predicted noise levels at the four locations differed by only 1 dBA. Therefore, the TNM model developed for this project was judged to be reasonably accurate and acceptable for traffic noise level predictions at all noise sensitive receptors in the corridor.

IMPACTS OF THE PREFERRED ACTION. According to Federal Regulation 23 CFR 772, noise impacts occur when 1) present or design year noise levels approach or exceed the Noise

Abatement Criteria (NAC) for a specific Activity Category and 2) when design year noise levels substantially increase over existing levels.

TABLE 7 presents the NAC (NAC) for various land uses and activity categories. The NAC helps determines when traffic noise impacts may occur, resulting in a negative impact at noise-sensitive locations along a roadway. The Activity Category for all noise sensitive receivers in the project area is Activity Category B that includes picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, churches, libraries and hospitals. The corresponding NAC for Activity Category B is 67 dBA.

TABLE 7: Noise Abatement Criteria (NAC)

Activity Category	$L_{eq}(h)$	Description of Activity Category
A	57 dBA (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dBA (exterior)	Residences, motels, motels, schools, churches, libraries, picnic areas, recreation areas, playgrounds, active sports areas, parks, and hospitals.
C	72 dBA (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	-- dBA (exterior)	Undeveloped lands.
E	52 dBA (interior)	Residences, motels, motels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

MDT identifies noise impacts as occurring when the $L_{eq}(h)$ noise level in the project Design Year at a receptor location is within 1 dBA of the Noise Abatement Criteria (NAC), or when noise levels in the Design Year are 13 dBA greater than noise levels in the Present Year. If either criterion is met, then a traffic noise impact will occur, and traffic noise abatement measures need to be considered. For residential properties, the NAC is 67 dBA, and therefore noise impacts would occur if 66 dBA were reached in the Design Year (2024), or if the predicted traffic noise levels in 2024 are 13 dBA greater than the estimated Present Year (2000) noise levels for the existing highway.

For the Preferred Action, the predicted noise levels in the Design Year (2024) at 9 receptors (representing 12 residences) exceed the NAC (66 dBA). Depending upon the location, the predicted noise levels in 2024 would be less than the noise levels in the Present Year or exceed the noise levels in the Present Year by up to 7 dBA. Therefore, traffic noise impacts are predicted for the Preferred Action.
However, it is important to note that the noise levels at 6 of the 9 noise-impacted receptors also exceed the NAC for the No Action Alternative. The Preferred Alignment Alternative would impact the other three receptors only. The impacted receptors are located west of Lake Helena Drive, within 31 m (about 100 feet) of the proposed centerline. For the Preferred Action, three or four residences (represented by two receptors) may be relocated due to right-of-way acquisition.

Receptor locations and predicted noise levels for the Preferred Action at all 62 locations studies can be found in the Canyon Ferry Road Noise Study on file with MDT or MDT's design consultant.

The operation of heavy equipment during construction of the road and bridges would also temporarily generate noise in the project area. These noise effects would be localized to work areas and would occur at various times during the construction period.

CUMULATIVE IMPACTS. The proposed road reconstruction project and other reasonably foreseeable actions in the project area would not result in any cumulative noise impacts.

IMPACTS OF THE NO ACTION ALTERNATIVE. For the No Action Alternative, the predicted traffic noise levels meet or exceed the NAC (66 dBA) in the Design Year (2024) at 6 receptors locations along the corridor (representing eight residences), and the predicted noise levels in the Design Year exceed the noise levels in the Present Year by 1 to 2 dBA. The receptors that exceed the NAC for this alternative are located west of Lake Helena Drive, and within 31 m (about 100 feet) of the centerline of the current roadway.

Receptor locations and predicted noise levels for the No Action Alternative at all 62 locations studies can be found in the Canyon Ferry Road Noise Study.

Mitigating Measures (Noise Impacts)

When traffic noise impacts are predicted, possible abatement measures for the mitigation of highway traffic noise must be considered. Possible abatement measures include modifying the road design associated with the Preferred Action, constructing noise barriers or berms, and implementing traffic management measures, such as reducing the speed limit on the road or restricting the access of certain vehicle types.

According to MDT's *Traffic Noise Analysis and Abatement: Policy and Guidance*, the abatement measures must be reasonable and feasible, and criteria are presented to help determine if a measure should be considered for noise mitigation. Barriers or berms must provide a minimum reduction in noise levels of 6 dBA to be considered feasible.

Possible noise abatement measures for the Canyon Ferry Road project corridor are described below.

- **Design Modifications.** Reducing the width of the proposed roadway would not substantially change the predicted traffic noise levels. Reductions in the width of the facility could not be accomplished without adversely affecting future traffic operations and the level of service in the commercial/residential section of the corridor.

- If the alignment of the new road were shifted to provide as much distance as possible between the proposed roadway and impacted residences, it may be possible to reduce the number of locations where noise impacts are predicted. However, since receptors are

located on both sides of the roadway in the area west of Lake Helena Drive, shifting the alignment may reduce the number of impacts on one side of the highway but create new noise impacts to other receptors on the opposite side of the road. Also, an alignment shift would likely increase project costs substantially due to additional right-of-way acquisition and possibly the relocation of additional residences.

- **Barriers and Berms.** A barrier is most effective when it is continuous and blocks the direct line-of-sight between the roadway and the noise receptor. Driveways and access roads from many of the noise-impacted properties to Canyon Ferry Road would limit the location and ability to provide a continuous barrier or berm and it is unlikely that a 6-dBA reduction in noise levels could be achieved. A berm provided between the road and impacted receptors would also require additional right-of-way width and its construction would likely cause negative impacts to adjacent land uses and sensitive natural features in the corridor like wetlands.

- **Traffic Management.** Restricting certain vehicle types, like heavy trucks, from using the road or limiting the time of day that certain vehicles may use the road, are not feasible mitigation measures for Canyon Ferry Road. Canyon Ferry Road is on the state's Secondary Highway System and is classified as a Rural Major Collector. Restrictions would limit access by trucks to the commercial businesses and agricultural properties along the roadway.

  Reducing the speed limit by 8 to 16 km/h (5 to 10 mph) on the road could reduce traffic noise levels by about 1 dBA, but traffic noise impacts would still exist at receptors along the roadway.

Based on the above discussions, none of these noise abatement measures are considered to be reasonable or feasible actions to implement with the proposed Canyon Ferry Road project.

7. HAZARDOUS SUBSTANCES

Existing Conditions. Hazardous materials are products or wastes regulated by the EPA or the MDEQ. These include substances regulated under the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA or Superfund), the *Resource Conservation and Recovery Act* (RCRA), and regulations for solid waste management, above-ground storage tanks (ASTs) and underground storage tanks (USTs).

A review of EPA's November 29, 2001 listing of RCRA facilities showed that two generators of hazardous waste materials (Chovanick, Inc. and Montana Operating Engineers & AGC Training Trust) are located in the general project area. A routine inspection was conducted on Chovanick, Inc. with no significant findings recorded. The Montana Operating Engineers property was listed with the EPA due to drums of material required to be removed from the property. They have since been removed from the area.

The EPA's listing of Superfund sites showed one location, the East Helena Site, in the area.

However, this site is located over 3.2 km (2 miles) from the Canyon Ferry Road project and would not be affected by the proposed road reconstruction.

MDT's engineering and design consultant for the proposed project completed an Initial Site Assessment and subsequent follow-up work for this project. The consultant reviewed the project area for potential sources of hazardous waste and examined MDEQ's statewide database of all known UST's registered with the agency to identify tank locations in the project area. Information contained in MDEQ's database lists tank ownership, contents, age, size, construction and release detection method installed. It also includes data on all UST systems whether active, closed in-place or removed. **TABLE 8** identifies registered UST facilities within the project corridor.

TABLE 8: Underground Storage Tank (UST) Facilities in the Project Area

Facility ID	Facility Name	Street Address	ActiveTanks	Non-activeTanks
25-03122	Canyon Ferry Mini Basket	3012 Canyon Ferry Road	3	
25-05713	Garber, Robert A & Colleen S	3963 Canyon Ferry Rd/Farm Bldgs		1
25-05411	O'Brien, John	5410 Canyon Ferry Road		1
25-13230	Ogle, Dennis	3247 Spokane Creek Road		1
25-06334	Petersen, Gary L	3575 Canyon Ferry Road		1
25-00237	Ransier, Willis E	5719 Canyon Ferry Road		1
25-04338	Summers, William C	3180 Canyon Ferry Road		3
25-05201	Wright, William H	5712 Canyon Ferry Road		1
25-05993	Big Sky Ready Mix	2930 Canyon Ferry Road	2	2
25-02952	Burnham, Don	2515 Canyon Ferry Road		4
25-07673	Gormely, Donald H	5865 Canyon Ferry Road		1

Source: Montana Department of Environmental Quality, Remediation Division-Technical Services Bureau Environmental Services Section, Underground Storage Tank - Leak Prevention Program, "Montana Underground Storage Tank Facilities Database," dated September 28, 2001.

The Petroleum Release Section of the MDEQ administers the federal Leaking Underground Storage Tank (LUST) Trust Fund Program that conducts investigation and remediation activities at release sites that threaten human health and the environment. The Petroleum Release Section maintains a statewide database of all storage tank releases that have been reported since 1986. The database listed one site as having a leaking underground storage tank (LUST) within the project area—Big Sky Ready Mix. The contamination, however, was not significant enough for a full investigation.

IMPACTS OF THE PREFERRED ACTION. The potential for the presence of hazardous wastes has been reviewed for this proposed project and the conclusion was made that

reconstruction of Canyon Ferry Road should not affect any areas of known contamination. However, the Ransier and Wright properties included in **TABLE 8** have been identified for relocation and have non-active underground storage tanks. These tanks would be removed prior to construction activities according to MDEQ procedures.

The East Helena Lead Education and Abatement Program was contacted to ensure construction activities would not disturb soils with dangerous lead levels. These contacts indicate that road construction activities would not encounter dangerously elevated lead levels in the soil along Canyon Ferry Road.

Treated timbers removed from the existing bridges or other affected structures associated with the roadway are a potential source of hazardous waste on this proposed project. If not salvaged, the contractor would be required to dispose of these wastes in a licensed Class II landfill to prevent hazardous waste contamination of the project area. Special provisions for salvaging and disposing of any treated timbers would be included in the contract plans for the project.

Disposal of non-salvageable and leftover materials would be in accordance with all applicable laws, rules, and regulations, including the *Montana Solid Waste Management Act*.

The only other known sources of hazardous waste for the proposed project are those associated with the equipment used for construction of the new roadway and its related features. These are the fuels, lubricants, hydraulic fluids, and related items needed for the contractor's vehicles and equipment. A slight risk of the release of these hazardous fluids exists since vehicles and heavy equipment would be operating within the project area throughout the construction period.

CUMULATIVE IMPACTS. The cumulative impacts of the generation and handling of hazardous materials for the proposed Canyon Ferry Road project together with other developments in the project area would be negligible. This conclusion was made due to the general absence of hazardous materials in the project area and adjoining lands.

IMPACTS OF THE NO ACTION ALTERNATIVE. This alternative would have no impacts on hazardous waste sites, generators, or substances. A low potential for the release of hazardous fluids exists since MDT would operate trucks and other heavy equipment during the performance of required road maintenance activities.

Mitigating Measures (Hazardous Waste Impacts)

The following measures will be implemented to minimize hazardous waste impacts of the proposed project:

- *The contractors for the project will be required to store fuel and other hazardous materials away from surface waters and wetlands to reduce the potential adverse effects of an accidental spill.*

- *The contractors for the project will be required to plan for and implement containment procedures in response to any accidental spills of fuels or other hazardous materials.*

- *The road construction contractor will be advised of the safety and hygiene guidelines suggested by the East Helena Lead Education and Abatement Program.*

8. IMPACTS TO CULTURAL, ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Existing Conditions. Cultural resources are protected by the *National Historic Preservation Act* of 1966, as amended (**16 U.S.C. 470 et seq.**). This law and its implementing regulations require the identification and evaluation of significant historical resources that may be affected by a proposed project. It further requires that resources so identified be avoided, if possible, or when avoidance is not possible, that any adverse effects of the project on the resources be mitigated. Coordination is also required with the *MONTANA STATE HISTORIC PRESERVATION OFFICE* (SHPO) and the *ADVISORY COUNCIL ON HISTORIC PRESERVATION* (ACHP).

Renewable Technologies Inc., a cultural resources consultant, prepared a cultural resource survey for the proposed Canyon Ferry Road project in October 2001 and a supplemental report in November 2002. Renewable Technologies Inc. recorded twelve sites and compiled information on one previously recorded site within the Canyon Ferry Road corridor. Included among the thirteen sites are one house, three farmsteads and nine irrigation ditches or systems. **TABLE 9** lists previously recorded sites and newly recorded cultural sites within Canyon Ferry Road and presents their *National Register of Historic Places* (NRHP) eligibility status.

As **TABLE 9** shows, none of the historic residences or farmsteads potentially affected by the proposed project are eligible for the NRHP. MDT's 1993 Amended Programmatic Agreement regarding the treatment of historic irrigation ditches affected by highway construction projects in Montana eliminates the need to evaluate the NRHP eligibility status for these historic features.

Main canals and laterals associated with the BUREAU OF RECLAMATION'S Helena Valley Irrigation Unit (24LC1062) would be impacted by the proposed highway project. MDT's 1993 Amended Programmatic Agreement regarding the treatment of historic irrigation ditches does not cover the BUREAU'S irrigation features. Therefore, a determination of NHRP eligibility is typically required for the Helena Valley Irrigation Unit (24LC1062). However, coordination with the BUREAU OF RECLAMATION indicates the proposed highway project would not impact 24LC1062 in a manner that would make it ineligible for the NRHP. In a letter Dated December 18, 2002, the BUREAU also agreed with the conclusion presented in the November 2002 supplemental cultural resources report that the Helena Valley Irrigation Unit is not NRHP eligible because of its recent construction. Letters of coordination from the BUREAU and the SHPO regarding this matter are provided in **APPENDIX B**.

SHPO was contacted for concurrence with NRHP eligibility determinations for cultural sites recorded in the Canyon Ferry Road project area. SHPO concurred with the NRHP eligibility determinations in letters dated February 14, 2002 and January 3, 2003. The January 3, 2003 letter from the SHPO agreed the design of the project would not affect the Helena Valley Irrigation Unit but chose to leave the NHRP eligibility status of the site unresolved. These letters

can be found in **APPENDIX B**.

TABLE 9 :Archaeological and Historic Sites Canyon Ferry Road Corridor				
Site Number	**Site Name/Description**	**Reference Post (RP)**	**Location**	**NHRP Eligibility Status**
24LC1688	Vernon Miller house	RP 2.6	3157 Canyon Ferry Road	Not Eligible
24LC1689	Peopping Farmstead	RP 4.4	3963 Canyon Ferry Road	Not Eligible
24LC1690	Bastin Farmstead	RP 6.7	4790 Canyon Ferry Road	Not Eligible
24LC1062	Helena Valley Irrigation Unit	Various	Various	Unresolved
24LC1691	unnamed ditch	RP 1.3	Sec. 14/23 line, T10N, R3W	Not Evaluated
24LC1692	Company Slough Ditch	RP 1.6	Sec. 14/23 line, T10N, R3W	Not Evaluated
24LC1693	Prickly Pear Ditch	RP 2.0	Sec. 14/23 line, T10N, R3W	Not Evaluated
24LC1694	unnamed ditch (#2)	RP 2.6	Sec. 13/24 line, T10N, R3W	Not Evaluated
24LC1695	Merritt-Gross Ditch	RP 3.0	Sec. 13/24 line, T10N, R3W	Not Evaluated
24LC1696	Stockburger Ditch	RP 3.6	Sec. 17/20 and Sec. 18/19 lines, T10N, R2W	Not Evaluated
24LC1697	Peopping Ditch	RP 4.9	Sec. 17/20 line, T10N, R2W	Not Evaluated
24LC1698	Smith Ditch	RP 8.8	Sec. 13, T10N, R2W	Not Evaluated
24LC1796	Charles Mann Farmstead	RP 8.7	Sec. 13, T10N, R2W	Not Eligible

Federally funded actions affecting historic sites that are on, or considered as eligible for the NRHP also must comply with *Section 4(f)* of the *U.S. Department of Transportation Act* of 1966, as amended (**49 U.S.C. 303**). Although there is no need to determine the NRHP eligibility status of the eight historic irrigation ditches within the project, these historic features are subject to consideration under *Section 4(f)*. This compliance is discussed later in this Part.

IMPACTS OF THE PREFERRED ACTION. The Preferred Action would not affect any cultural properties considered eligible for the NRHP.

The Preferred Action would impact existing irrigation ditch crossings of Canyon Ferry Road and would require the installation of new metal or concrete culverts beneath the road at each location where the new highway crosses the irrigation ditches. For the purposes of the 1993 Programmatic Agreement regarding the treatment of historic irrigation ditches affected by highway construction in Montana, structures associated with existing roads and built with the reconstructed roadway are considered to be features of the roadway and not of the intersecting irrigation systems. FHWA and MDT have satisfied their responsibilities under the *National Historic Preservation Act* (Section 106) for this proposed project through the execution and implementation of the 1993 Programmatic Agreement.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Build Alternative would not cause any further effects on the cultural resources in the Canyon Ferry Road project area.

CUMULATIVE IMPACTS. No cumulative effects on archaeological or historical sites are anticipated as a result of the Preferred Action. However, the likelihood for encountering cultural materials increases as new lands become disturbed by highway improvement projects and other ongoing and future developments in the area.

Mitigating Measures (Cultural Resource Impacts)

The following measure will be implemented to minimize potential impacts on cultural resources due to implementation of the proposed project:

- *If significant unanticipated cultural materials are encountered during construction, MDT will require the contractor(s) to temporarily suspend work in the immediate vicinity of the find until the cultural materials can be assessed.*

9. SECTION 4(f) PROPERTIES

Section 4(f) of the *U.S. Department of Transportation Act* (**49 U.S.C. 303**), as amended, provides for the protection of publicly-owned parks, recreation lands, historical sites, and wildlife and waterfowl refuges.

There are no public parks, public recreation sites, or wildlife or waterfowl refuges within the area that would be affected by the proposed action. None of the historic sites that exist in the Canyon Ferry Road corridor are eligible for the NRHP. However, eight historic irrigation ditches within the project corridor are subject to *Section 4(f)*. These ditches include sites 24LC1691 (unnamed ditch); 24LC1692 (Company Slough Ditch); 24LC1693 (Prickly Pear Ditch); 24LC1694 (unnamed ditch); 24LC1695 (Merritt-Gross Ditch); 24LC1696 (Stockburger Ditch); 24LC1697 (Peopping Ditch); and 24LC1698 (Smith Ditch).

The BUREAU OF RECLAMATION'S Helena Valley Irrigation Unit (24LC1062) is not considered to be subject to *Section 4(f)* because the Bureau does not believe the property is NRHP eligible.

IMPACTS OF THE PREFERRED ACTION. The Preferred Action would impact existing irrigation ditch crossings of Canyon Ferry Road in the same manner as previously described under **8. Impacts to Cultural, Archaeological, and Historical Resources**.

In mid-1983, the FHWA developed a "Nationwide" *Section 4(f)* Evaluation form for projects requiring minor uses of land from historic sites. The word "minor" is narrowly defined by FHWA as having either a "no effect" or "no adverse effect" on the historic property. A copy of the completed "Nationwide" Programmatic *Section 4(f)* Evaluation form for this project's potential effects to the eight historic irrigation ditches within the Canyon Ferry Road corridor can be found in **APPENDIX D**. The form programmatically demonstrates compliance with the

provisions of *Section 4(f)*.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would impact any *Section 4(f)* properties.

CUMULATIVE IMPACTS. The likelihood for encountering cultural materials increases as new lands are disturbed by highway improvement projects and other ongoing and future developments in the area. However, the likelihood of discovering new cultural sites with this project is remote since it primarily follows the existing road alignment without excavating a significant amount of undisturbed land. In the unlikely event new cultural sites were discovered during the course of construction, mitigation measures would be implemented to protect them.

Mitigating Measures (Section 4(f) Resources Impacts)

A "Nationwide" Programmatic *Section 4(f)* Evaluation form for the historic irrigation ditches affected by the proposed reconstruction of Canyon Ferry Road found in **APPENDIX D** discuss measures to minimize harm to these properties.

10. SECTION 6(f) LANDS

Section 6(f) of the *National Land & Water Conservation Fund Act* (**16 U.S.C. 460**) requires that coordination be undertaken to determine if federal funds were used to acquire or improve any lands in the project area for recreation or water conservation purposes. The Parks Division of the MDFWP indicates that none of the lands affected by this project were developed with money from the Land and Water Conservation Fund. For this reason, neither the Preferred Action nor the No Action Alternative would impact *Section 6(f)* lands.

11. PEDESTRIAN AND BICYCLIST FACILITIES

Existing Conditions. Although counts are not available to quantify such use, Canyon Ferry Road receives only limited use by pedestrians and bicyclists. Since little if any paved shoulder currently exists along the roadway, bicyclists must instead use a portion of the vehicle travel lane or the unpaved shoulder for riding through the project area. Pedestrians must also use the unpaved shoulder or roadside slopes for walking along the highway.

The *Helena Area Transportation Plan 1993 Update* shows recommended bike routes and a desired network of cross-community trails. This network of bike routes and trails was proposed as part of a strategy for reducing vehicle miles of travel within the community and as a first step toward promoting the use of bicycles and walking as a legitimate means of transportation.

Canyon Ferry Road is identified as a recommended bike route in the *Helena Area Transportation Plan 1993 Update*. The plan also indicated that it may be desirable for pedestrian trails to be located along Canyon Ferry Road, along Prickly Pear Creek, and along a major irrigation canal in the project area. It should be noted that the pedestrian trail system

designated in the Transportation Plan is conceptual and intended only to identify urban-suburban travel desires for a variety of potential trail users.

IMPACTS OF THE PREFERRED ACTION. The Preferred Action would provide a 2.4 m (8-foot) wide shoulder from the beginning of the project to Wylie Drive and a proposed 1.8 m to 2.1 m (6 to 7 foot) wide shoulder from Wylie Drive to Lake Helena Drive. Within the rural section of the project corridor, the new road would have a 2.4 m (8-foot) wide paved shoulder. Rumble strips compatible with use by bicyclists would be milled into the shoulder within the rural portion of the project. AASHTO recommends a minimum 1.2 m (4 foot) wide shoulder for safe bicycle travel along a roadway.

Various options for accommodating pedestrians in the commercial/residential section were presented for public comment at various meetings held throughout the scoping process. Options considered included doing nothing, sidewalks with boulevards, sidewalks behind curbs and multi-use paths. The public's directive to minimize right-of-way acquisition, budgetary constraints, and a lack of public consensus about the need for pedestrian facilities led MDT to eliminate sidewalks from this proposed reconstruction project. Sidewalk construction remains a viable option for a separate future project on Canyon Ferry Road.

CUMULATIVE IMPACTS. Pedestrian and bicycle use of Canyon Ferry Road should be enhanced slightly with the provision of shoulders on the highway. The proposed action would not preclude Canyon Ferry Road from becoming a designated bike route as recommended in the *Helena Area Transportation Plan 1993 Update*.

IMPACTS OF THE NO ACTION ALTERNATIVE. The No Action Alternative would not change conditions for pedestrians and bicyclists on Canyon Ferry Road. These highway users would be required to continue using a portion of the travel lane, the unpaved road shoulder, or roadside slopes for travel along and through the project area.

Mitigating Measures (Pedestrian and Bicyclist Facilities)

No mitigating measures are required or proposed.

12. IMPACTS TO VISUAL RESOURCES

Existing Conditions. Canyon Ferry Road is situated in the eastern portion of the Helena Valley and the highway crosses flat to gently rolling terrain in the valley until entering the foothills of the Spokane Bench. The western segment of the project corridor is moderately densely developed with residential and commercial properties and gravel operations. The eastern and more rural section of the corridor passes through rolling terrain with scattered residences, ranchettes, and farm and agricultural developments.

The land area seen from the highway corridor is dominated by background landscapes including the Elkhorn Mountains to the southeast, the Spokane Bench to the east, and the Big Belt Mountains to the northeast. The Scratchgravel Hills and Continental Divide are visible to the west of the project. Foreground landscapes seen from the highway are dominated by man-made features including: the existing road, bridges, and associated features; intersecting roads and approaches; fences; residences and outbuildings, landscaping, overhead utilities; and cultivated and grazing land. Additionally, natural features like isolated stream corridors, wetlands, and rolling hills adjacent to the road can be seen from the highway.

Those who view the existing highway and who would see the reconstructed transportation facilities in the project corridor include permanent and seasonal residents, recreationists traveling to and from Canyon Ferry Reservoir and nearby public lands, employees and patrons of businesses within the corridor, and other motorists passing through the area.

IMPACTS OF THE PREFERRED ACTION. The Preferred Action would not change views of the background landscapes along Canyon Ferry Road. However, this alternative would cause minor changes to the foreground landscape of the highway corridor. The width of the new roadway would be greater than that of the existing facility due to its increased pavement width and revised roadside slopes. The addition of "urban" features like curb and gutter, overhead lighting, and a traffic signal at Wylie Drive would be very apparent changes in the western section of the project area.

Reconfiguring the intersection of Canyon Ferry Road and Spokane Creek Road with the associated modifications to terrain, the addition of lighting, and removal of several residences would also be a notable change. These highway modifications would be noticeable to residents and highway users familiar with the previous roadway alignment of the road.

The Preferred Action would cause minor, short-term visual impacts during the construction period. Visual changes during construction would include: surface disturbances and clearing until seeding areas grow in; temporary sign installations; the storage of excavating material, equipment, and material; and dust and debris from construction activities.

CUMULATIVE IMPACTS. The implementation of this project and others proposed in the area would incrementally change the views from the road and of the road for residents and highway users.

IMPACTS OF THE NO ACTION ALTERNATIVE. There would be no change in the visual

appearance of the project area due to continued highway maintenance actions by MDT.

Mitigating Measures (Visual Impacts)

The following measure would be incorporated with the proposed project to offset potential visual impacts.

- *Disturbed areas would be reseeded as quickly as possible.*

13. SECONDARY AND CUMULATIVE EFFECTS

Secondary (or indirect) effects are those that are caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable. Secondary impacts are generally induced by the initial action and comprise a wide variety of effects such as, changes in land use, water quality, economic conditions, or population density. The secondary impacts of the proposed Canyon Ferry Road project are addressed in appropriate sections of this Part.

Cumulative impacts are those effects that result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions regardless of what agency (federal or non-federal) undertakes such actions.

Projects Planned by MDT. Projects under construction or planned by MDT in the vicinity were reviewed to help assess the cumulative impacts of this project. MDT currently has six planned projects on the state highway system within the general vicinity of the Canyon Ferry Road project, not including this proposed project. These projects are identified and briefly described below:

- **I-15 Corridor EIS.** MDT is currently preparing an Environmental Impact Statement (EIS) to identify and evaluate potential transportation improvements to the I-15 corridor between the Lincoln Road and Montana City interchanges. The purpose of the EIS is to identify the best alternative that will safely and efficiently accommodate anticipated motorized and non-motorized traffic volumes while simultaneously improving east-west travel crossing the I-15 corridor. The EIS will identify potential future interchange locations, one of which may be located at Custer Avenue (the extension of Canyon Ferry Road within the City of Helena). I-15 is located about 4 km (2.5 miles) west of the beginning of the Canyon Ferry Road project.

- If an interchange were provided at Custer Avenue, Canyon Ferry Road would have a direct connection to I-15 for the first time. Traffic volumes and travel patterns on Canyon Ferry Road east of Helena and connecting roads could notably change with the provision of a new interchange. The scheduled completion date for the EIS is June 2003. A final Record of Decision (ROD) for the project will be completed in September 2003. The timing of future improvements to the I-15 corridor, including the possible development of a new interchange at Custer Avenue, is unknown at this time.

- **Custer (Washington-East) - Helena; CM 5802(6); Control No. 4462.** MDT, in cooperation with the City of Helena, is currently developing design plans for the reconstruction of Custer Avenue between Washington Street and York Road. This project is located approximately 2.4 km (1.5 miles) west of the beginning of the proposed Canyon Ferry Road project. The City plans to reconstruct Custer Avenue within the project segment to provide two 3.6 m (12 foot) travel lanes, a 4.2 m (14 foot) center turn lane, and two 2.4 m (8 foot) wide shoulders. The project should be ready for letting in March 2004.

- **Helena-East Helena; NH 8-2(59) 46; Control No. 4820.** This proposed project would mill the surface and replace the median and shoulder paving on a portion of U.S. Highway 12/287 between Helena and East Helena. The proposed project is located about 3.2 km (2 miles) south of the Canyon Ferry Road project area. The planned date for implementation is during Fiscal Year 2005.

- **2000-SFTY-Wylie Dr- N East Helena; STPHS 25(37); CN 4724.** This project would reconstruct a sharp curve on Wylie Drive located about 1 km (0.6 miles) south of the intersection of Canyon Ferry Road/ Wylie Drive intersection and implement other safety improvements on the county road. The planned date for implementation is during Fiscal Year 2005.

- **Slope Fltn - NE of Helena; STPHS 280-1(14)4; Control No. 3629.** This planned MDT project would flatten roadside slopes and resurface Secondary Highway 280 (York Road) between Valley Drive and Lake Helena Drive. The proposed project is located about 3.2 km (2 miles) north of the Canyon Ferry Road corridor. The project is scheduled for letting in November 2003.

- **Warren School Curve - East.** This planned MDT project would provide an overlay and seal and cover on a portion of Secondary Highway 280 northeast of Helena. The proposed project is located about 3.2 km (2 miles) north of the Canyon Ferry Road corridor. The anticipated completion date of this work is during Fiscal Year 2003.

It should be noted that the availability of funding could affect the timing of implementation for these projects.

The earliest anticipated date for the beginning construction of the Canyon Ferry Road project is 2006. For funding reasons, reconstruction of the corridor would likely occur under at least two projects beginning no sooner than 2006. The initial project would probably rebuild Canyon Ferry Road from the project's beginning to just east of Lake Helena Drive. Reconstruction of Canyon Ferry Road east of Lake Helena Drive would likely occur after the initial project is finished, as soon as MDT can secure sufficient funding.

A review of these planned highway projects shows that all of these projects will likely be completed before MDT's Canyon Ferry Road construction project is initiated (2006). None of these other MDT projects would be located closer than 1 km (0.6 miles) from the Canyon Ferry Road project area. The review also shows that none of the proposed projects would be of the same magnitude as the proposed Canyon Ferry Road reconstruction project.

Because MDT's other active and planned reconstruction projects are not contiguous with the proposed work area on Canyon Ferry Road and would not generally occur at the same time, the cumulative environmental impacts of these projects on the proposed Canyon Ferry Road project would be minor. Similarly, the proposed improvements on Canyon Ferry Road would not be expected to produce any significant cumulative environmental impacts on other proposed projects in MDT's Butte or Great Falls Districts.

Although these MDT projects occur in the same general area of Lewis and Clark County and would likely be implemented within two or three years of each other, the planning, design, and construction of each project has proceeded independently. Implementing the Canyon Ferry Road reconstruction project would not trigger the need for improvements to other adjoining segments of the route or on Spokane Creek Road. Likewise, implementation of other known road projects within Lewis and Clark County would not require that any portion of Canyon Ferry Road be reconstructed.

However, it should be noted that a possible future decision to construct a new interchange on I-15 at Custer Avenue could dramatically affect the use of Custer Avenue within the City of Helena and Canyon Ferry Road. Interchange construction on Custer Avenue may be an action that indirectly causes land use changes and contributes to growth within this urban/suburban transportation corridor.
MDT would continue to coordinate future projects with the public and other appropriate agencies, complete a review of potential impacts to the environment, and identify requirements for mitigation of any adverse effects as projects are developed and implemented.

Future growth in the vicinity of Canyon Ferry Road, Lewis and Clark County, or adjoining counties would likely be driven by factors other than improving this section of Canyon Ferry Road. Such factors are primarily related to the national and global economic conditions and the price of energy. For these reasons, it is impossible to predict what types of impacts might occur. It is certain that such development, should it occur, would happen independently of the Canyon Ferry Road reconstruction project.

Planned Projects by Federal Agencies in the Area. Projects underway or proposed by federal agencies in the vicinity of the Canyon Ferry Road project corridor were also reviewed to help assess the potential for cumulative impacts.

- **Canyon Ferry Reservoir Resource Management Plan/Environmental Assessment.** The U.S. DEPARTMENT OF THE INTERIOR-BUREAU OF RECLAMATION recently completed the combined Resource Management Plan/Environmental Assessment (RMP/EA) to establish a 10-year management framework for conserving, protecting, enhancing, developing and using the physical and biological resources at Canyon Ferry Reservoir and its surrounding lands. Canyon Ferry Dam and Reservoir are located about 8 km (5 miles) east of the eastern terminus of this proposed project and can be accessed from the project area by S-430 and S-284 and other county roads. The Finding of No Significant Impact (FONSI) document for the RMP was signed on February 7, 2003.

- **Cave Gulch Salvage Project.** THE HELENA NATIONAL FOREST issued a Record of Decision for an EIS on November 1, 2002 for timber harvesting and restoration activities on National Forest lands northeast of Canyon Ferry Reservoir burned by the Cave Gulch Fire in 2000.

- **North Belts Travel Plan/Magpie Confederate Vegetation Restoration Project.** The U.S. FOREST SERVICE-HELENA NATIONAL FOREST and the U.S. DEPARTMENT OF THE INTERIOR-BUREAU OF LAND MANAGEMENT are in the process of preparing an EIS to select preferred alternatives for travel management, vegetation treatment, and noxious weed control in the 80,900 ha (199,860 acre) North Belts Travel Plan/Magpie Confederate Vegetation Restoration area. The area is located on federal lands located in the north end of the Big Belt Mountains, including the Spokane Hills area east of the Canyon Ferry Road project corridor.

  The EIS will recommend actions to: bring motorized use into balance with other resources (elk security and water quality) while also protecting them; to move the vegetation plant communities towards the integrated desired conditions, reduce fire danger and restore balance to the grasslands and forests in the area; and to identify a more aggressive, cost effective weed control program. A decision based on the EIS and subsequent comments is expected during 2003.

None of these projects would be expected to result in cumulative effects because the projects are not contiguous with the proposed work area on Canyon Ferry Road and would not generally occur at the same time. For these reasons, the cumulative environmental impacts of these projects on the proposed Canyon Ferry Road project would be minor.

Planned Projects by Others in the Area. Projects underway or proposed by others in the vicinity of the Canyon Ferry Road project corridor were also reviewed to help assess the potential for cumulative impacts.

- **New Residential/Commercial Development.** The lands in east Helena Valley, including some lands immediately adjacent to the project corridor continue to see commercial and residential development. Currently, there are no known major subdivisions proposed for the immediate project corridor; however, some minor subdivision proposals continue to be received by the County in the general area. Phase I of the Holmberg Subdivision is currently in development and additional development phases may occur adjoining the existing subdivision.

- **Helena Sand and Gravel Pit Development**. Helena Sand and Gravel owns property at the northeast corner of Canyon Ferry Road and Lake Helena Drive and intends to ultimately develop a new gravel pit on the property. The timing of the new pit development is uncertain but would occur when a decision is made to close the company's existing pit located near the west terminus of this project. This development would generally transfer existing operations to a new location and would not be expected to substantially increase traffic to or from the facility. Local traffic patterns in the area could change since it may be more convenient for trucks to use Lake Helena Drive to access U.S. Highway 12 from this new pit location.

None of these projects proposed by others, would be expected to result in cumulative effects. This conclusion was made because the projects, with the exception of sand and gravel pit development, are not contiguous with the proposed work area on Canyon Ferry Road and would not generally occur at the same time. For these reasons, the cumulative environmental impacts of these projects on the proposed Canyon Ferry Road project would be minor. The sand and gravel pit development would be subject to Montana's air quality regulations and associated environmental review process. This review would consider the potential cumulative environmental impacts of simultaneous gravel pit and road construction in the same area.

14. CONSTRUCTION IMPACTS

Highway reconstruction activities associated with the Canyon Ferry Road project would cause temporary inconveniences to the traveling public and to local residents. These inconveniences may include slightly longer travel times, minor detours around work zones, temporary disruption of access to residences or businesses, and the noise and dust generated by construction equipment. These impacts could be expected to occur at various times throughout period (or periods) required to construct the proposed highway improvements. Typical impacts associated with the construction are described below:

Noise and Vibration. The operations of heavy machinery like earth moving equipment, paving equipment, power tools, and trucks would create periods of undesirable noise in the project area. Noise due to construction activities would produce short-term impacts for residents and business owners near the highway. Construction-related noise may also temporarily displace some wildlife and bird species from the area or deter such species from using habitats in the vicinity of the roadway.

Dust. The operation of heavy equipment on disturbed areas and highway users traveling through work zones or on detours without paved surfaces could produce dust.

Water Quality. Runoff from disturbed surface areas has a minor potential to enter surface waters or wetlands and adversely affect water quality. Petroleum products and other materials could be spilled during the operation and maintenance of equipment needed to build the new highway facilities.

Visual. Stockpiles of materials and equipment needed for the construction of the new bridge and roadway may cause short-term adverse impacts for local residents and others passing through the project area.

Traffic. The proposed project would be built "under traffic" meaning that travel through work zones would be allowed during construction. MDT will prepare a traffic control plan to ensure that traffic flows through the project area are maintained in a safe and efficient manner and that access to adjacent businesses, residences, and agricultural lands is provided during the construction period. The traffic control plan may require the use of temporary detours, occasional delays, and the use of flaggers or pilot cars to guide traffic

through work zones.

The contractor for the project would be required to identify and develop any necessary borrow sites for fill material. Needed materials would have to be trucked from borrow sites to work zones. This could cause a minor increase in truck traffic on Canyon Ferry Road and any other area roads used for travel to and from borrow sites.

Mitigating Measures (Construction Impacts)

Construction impacts will be mitigated through the implementation and enforcement of control measures during construction such as:

- *Dust generated by construction activities will be controlled by the required use of either water or approved dust suppressant.*
- *Best management practices will be employed to prevent sediments from reaching the area surface waters or wetlands.*
- *The contractor will develop a public involvement plan to keep the public aware of construction related activities.*
- *Temporary or permanent seeding and mulching will be used to control erosion of disturbed areas.*
- *The contractor will be required to have a plan for implementing appropriate measures in the event of an accidental spill.*
- *All work related to the proposed Canyon Ferry Road project would be subject to the provisions included in the current edition of Standard Specifications for Road and Bridge Construction as adopted by MDT and the Montana Transportation Commission.*

Impacts of the No Action Alternative. The only construction impacts associated with this alternative would be related to the completion of minor maintenance activities on the existing roadway and its related facilities. Maintenance actions have the potential to create minor temporary and localized impacts such as noise from equipment, delays or detours, and surface disturbances.

15. PERMITS REQUIRED

The No Build Alternative would not require any permits. However, the proposed Canyon Ferry Road reconstruction project would require the following permits to be obtained prior to any relevant disturbances:

Section 402/Montana Pollutant Discharge Elimination System (MPDES) Permit. The project would be in compliance with the *CLEAN WATER ACT* **(33 U.S.C. 1251 - 1376)** - *Section 402/*Montana Pollutant Discharge Elimination System. Accordingly, MDT would submit a Notice of Intent (NOI) package to MDEQ's Permitting and Compliance Division for coverage under the MPDES "General Permit for Storm Water Discharges Associated with Construction Activity." This permitting process would serve only as a notice of intent to discharge, rather than a submittal for agency review or approval of a Storm Water Pollution Prevention Plan (SWPPP).

***Section 404* Permit.** A *CLEAN WATER ACT* **(33 U.S.C. 1251 - 1376)** - *Section 404* permit from the COE will be required for the placement of fill or excavation in delineated jurisdictional wetlands and "Waters of the US" associated with the installation of new replacement culverts or bridges. The COE will determine if this proposed project qualifies for a "Nationwide" permit under the provisions of 30 CFR 330.

124SPA* Permit.** A ***124SPA Permit as required under the *Montana Stream Protection Act* for a minor channel modification at No Name Spring Creek and new culvert installations and related work in both No Name Spring Creek and Spokane Creek.

Floodplain Development Permit. A floodplain development permit from Lewis and Clark County will be required for any work within delineated 100-year floodplains within the Canyon Ferry Road project area.

Additionally, MDT must coordinate this proposed project with the U.S. DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION and secure an agreement to enter on lands administered by the agency and to build new highway bridges across the Helena Valley Canal at two locations and to relocate a short section of the canal. A Construction Authorization Contract from the BUREAU would be required prior to approval of the project.

V. COORDINATION WITH OTHERS

V. Coordination with Others

This Part summarizes efforts undertaken by MDT to communicate with interested agencies and the public about the proposed highway improvements within the Canyon Ferry Road project corridor Road Corridor. The specific objectives of the activities performed to coordinate this project are to:

- identify and include people, groups, and agencies that may be affected;
- provide opportunities for interested parties to express their views, ideas, and concerns about the project;
- ensure that interested parties receive understandable project information; and
- make it apparent to all interested parties that their opinions and ideas have been considered during the development of the project.

A. Agency Coordination

1. COOPERATING AGENCIES

Representatives of MDT and the FHWA are developing the proposed Canyon Ferry Road reconstruction project under Montana's Surface Transportation Program (STP). Lewis and Clark County is a Cooperating Agency on this proposed project due to its jurisdiction and ownership of Canyon Ferry Road and other county roads intersecting the route. Meetings to discuss preliminary design plans for this proposed highway reconstruction project were held with Lewis and Clark County during the development of this environmental document.

2. AGENCIES CONSULTED

Coordination with permitting and resource agencies has informally occurred during the development of the project through correspondence requesting comments and/or needed information. The following agencies and parties were consulted during the development of this Environmental Assessment:

- Federal Highway Administration (FHWA)
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Department of Interior, Bureau of Reclamation (BOR)
- U.S. Army Corps of Engineers (COE)
- U.S. Postal Service
- Montana Department of Commerce (MDOC)
- Montana Department of Environmental Quality (MDEQ)
- Montana Department of Fish, Wildlife & Parks (MDFWP)
- Montana State Historic Preservation Office (SHPO)
- Montana State Library, Natural Heritage Program (MNHP)
- Helena Valley Irrigation District

B. Public Involvement Activities

1. PROJECT NOTICES/EARLY PROJECT MEETINGS

Robert Peccia & Associates (RPA) personnel contacted property owners along the highway and those adjacent to the Spokane Creek Road intersection in June 2001 to notify them about the proposed plans to reconstruct Canyon Ferry Road and to obtain right-of-entry approval to perform preliminary field investigations. Contacts with these property owners were made by personal contact, direct mail and telephone.

Relevant federal, state and county agencies were notified in July and August 2001 about the proposed reconstruction plans and were asked to respond with their comments.

MDT prepared and distributed an initial news release about planned reconstruction of Canyon Ferry Road on June 8, 2001. The release was distributed to the Helena Independent Record, KBLL Radio and KCAP Radio. The one page statement noted the proposed project's location, summary of anticipated work and schedule, requested comments and provided points of contact for information. A copy of the news release can be viewed in **APPENDIX C**.

In lieu of publishing the requested news release, a reporter from the Helena *Independent Record* interviewed RPA's Project Manager to prepare a feature story about the project. The front-page article, "Canyon Ferry Road to be Redesigned" was published on June 12, 2001. A copy of the article is provided in **APPENDIX C**.

The Helena *Independent Record* followed up on its initial article with a second story on August 2, 2001 entitled, "MDT: Road in Good Shape, But Could Use Some Improvements." This article highlighted the intent to redesign and reconstruct the highway. This article can also be found in **APPENDIX C**.

Three newsletters describing the location of the project, its purpose, schedule and potential impacts were distributed to property owners and businesses within the corridor, federal, state, county and local agencies and other interested parties. The introductory newsletter was distributed in October 2001 and follow-up issues were distributed in March 2002 and May 2002. Copies of the newsletters are included in **APPENDIX C**.

A post card updating interested parties on the status of the project and EA was issued in February 2003.

2. NOVEMBER 14, 2001 PUBLIC MEETING

A public information meeting about this proposed project was held on November 14, 2001 at the R.H. Radley School gymnasium in East Helena to advise the public about its scope and potential impacts. The meeting's intent was to give the public the opportunity to discuss project issues, help MDT's consulting engineers identify potential social, economic, and environmental impacts, and obtain input on desired roadway features. In addition, the meeting sign-in sheet allowed the consultant to update the direct mailing list of interested people, property owners and businesses.

Notification of the scoping meeting was published in the Helena *Independent Record* on November 2 and November 11, 2001. Property owners, interested citizens, and involved agencies were also notified of the meeting intent, time, date and location through the distribution of the first project newsletter.

An open-house meeting was held from 4:00 p.m. to 6:00 p.m. The meeting had a table positioned at the entrance, setup with sign-in sheets, comment forms, pens, half-size aerial photos with conceptual design features, and roadway sections for the attendees review and comment. A comment form drop box was also on the table to ease collection of the forms should attendees complete their comments by the end of the meeting. Aerial photos were displayed which allowed participants to walk through the entire project during the open house. Displays showing the existing highway, possible designs, and roadside features were also available for review.

The consultant gave a formal presentation at 7:00 p.m., describing the scope of the project, outlining the schedule, and encouraging comments from the public on project-related issues. An open discussion about the project took place after the presentation and MDT staff and its design consultant fielded comments during a question and answer session. Sign-in sheets from the meeting showed 60 people attended the open-house sessions, including agency and consultant personnel.

3. PROJECT SCOPING COMMENTS

As a result of early project notifications, landowner contacts, and the public open house meeting, MDT's design consultant collected nearly 140 public comments on the proposed project. These comments were collected from a variety of sources including: 1) comments returned with right-of-entry forms; 2) letters; 3) emails and phone calls; personal interviews; and comments submitted at or following the November 14, 2001 public meeting. The public comments received ranged from concerns about the new road's design to landscaping and right-of-way issues. The following table displays the distribution of public comments by general subject at that time.

Major Subject of Comment	**# of Comments Received**
Travel Speed/ Safety	24
Pedestrian/Bicycle Facilities	10
Landscaping & R/W Acquisition	31
Alternative Designs/Engineering	53
Planning/Development	36
Spokane Creek Road Intersection	5

Comments within the category of *Travel Speed/Safety* indicated or were of the opinion that:

- The existing road in the developed residential/commercial area between Wylie Drive and Lake Helena Drive currently exhibits travel speeds too high for the level of development and number of road intersections and private approaches/driveways.
- The proposed project will widen the road and improve geometrics, likely encouraging motorists to drive faster. How will the project address possible travel speed increases?
- If the improved road encroaches into the roadside development, will it create new safety concerns?

Those with comments about *Pedestrian/Bicycle Facilities* suggested that:

- Wider shoulders or paths for bicyclists, and sidewalks or paths for pedestrians and children should be included for safety reasons in the residential/commercial section.
- The combination of vehicle speeds and proposed road widening need would make it difficult for pedestrians to cross the highway. What measures will be implemented to make pedestrian crossing easier and safer?
- The need for safe bicycle movement should be addressed in the new design throughout the project corridor.
- The project should accommodate bicycles and pedestrians, but minimize additional right-of-way acquisition.

More than thirty people submitted comments about *Landscaping and Right of Way Acquisition* with comments like these below.

- Utility relocations should be underground in the residential/commercial area as mitigation for additional right-of-way acquisition and property encroachment.
- Right-of-way acquisition in the residential/commercial section should be minimized. Property owners are reluctant to relinquish property for right-of-way just to widen the road for projected traffic increases.
- There is a concern on how the road widening will compliment their yards in the residential/commercial section. The lack of clean-up after past work on communication utilities within the easement, but adjacent to their property, left the property owners upset and wary.
- The removal of mature shrubbery and trees should be minimized. This is not a question of cost to replace, but difficulty in maintaining what they have developed and the length of time to develop the growth.
- Initial right-of-way acquisition in the rural section should consider the potential for future growth in the area. Once rural property is subdivided and developed, future right-of-way acquisition for the road will be more costly and impact more people than at the present.

The subject that received the largest share of comments, *Alternative Designs/Engineering,* generated the following suggestions:

- The project should consider the use of roundabouts in analysis of major intersections.
- Consideration be given to relocating mailboxes for safety, either onto approaches or into mailbox clusters located at pullouts.
- Substantial public support exists for traffic signal installations at major intersections.
- Traffic calming devices or measures should be considered to reduce operating speed on the road.
- Construction of a curb and gutter section would reduce right-of-way acquisition and mitigate road widening in the residential/commercial area.

Comments about *Planning and Development* included the following thoughts:

- The new road should be designed to accommodate the growth and development anticipated to occur in the rural section.
- Reconstructing the road should be accomplished under one contract. If reconstruction requires phasing due to funding constraints, the Spokane Creek Road intersection and the residential/commercial area should be rebuilt during the earliest phase.
- The reconstruction will not address the greater issue of continued growth, and lack of suitable east-west routes through the valley.

The *Spokane Creek Road Intersection* was the topic for fifteen public comments including:

- Reconstructing the intersection should be accomplished at the earliest possible date.
- Alternative designs and layouts for the intersection should be considered.

MDT considered all of these comments to various degrees during the development of the proposed reconstruction plans for Canyon Ferry Road and in the development of the EA. Various sections of the EA discuss the majority of the comments summarized above. Some design measures or suggestions cannot be implemented due to funding limitations.

4. JUNE 3, 2002 PUBLIC MEETING

A second public meeting on the project was held at East Helena's R.H. Radley School on June 3, 2002 to present its findings for design and alignment alternatives. The meeting followed the same format as the November 14, 2001 meeting with an afternoon open-house session and an evening presentation with question and answer session. About 75 people attended the public meetings. MDT and its design consultant were available to discuss the proposed project with the public throughout the afternoon and evening sessions.

The evening session began with a presentation on the proposed highway reconstruction project's status and an explanation of the need for the project. The presentation also discussed project alternatives and preferred treatments based on the issues previously identified for the project. Handouts and displays illustrating design options under consideration and preferred designs were made available to those attending.

Comments received as a result of the June 3, 2002 public meeting included written comment forms and letters. Forty-six written comments were received after the meeting. Many of the comments reiterated previous concerns. However, there were additional comments received about potential effects of highway reconstruction on septic systems, drainfields and landscaping.

A dozen comments were received supporting the proposed configuration and improvements at the Canyon Ferry Road/Spokane Creek Road intersection. Several new issues or concerns were expressed at the June 3 meeting including: requests for a flashing yellow light at the Lake Helena Drive intersection, which was recently installed, and the immediate installation of mail box banks and a turn lane at Holmberg Estates subdivision.

5. PERSONAL CONTACTS WITH LANDOWNERS

MDT's design consultant has been accessible to discuss the proposed reconstruction project with affected landowners and other interested parties. To date, more than ten individual meetings with property owners have been held to provide up-to-date information about the project, discuss ways to minimize right-of-way impacts, and to discuss assistance available from MDT to those who may be relocated by the proposed project.

6. PLANNED PUBLIC INVOLVEMENT ACTIVITIES

A Notice of Availability of the Environmental Assessment and planned date for a Public Hearing on the Canyon Ferry Road project will be sent to all parties on the mailing list and advertised in local newspapers following FHWA's approval of this document.

The notice of availability of the EA and the document itself will also be posted on Robert Peccia & Associates website (**www.rpa-hln.com**) with a link from MDT's webpage (**www.mdt.state.mt.us**).

During the public review and comment period, a public hearing—similar in format to the previous two public meetings—will be held. The date of the public hearing will be advertised at least fifteen (15) days in advance of the meeting.

At the public hearing, the general public will be given the opportunity to provide both oral and written comments on the proposed action. Written comments will be received on the document for at least thirty (30) days following its initial distribution and public availability. Public and agency comments on this document received by MDT will be evaluated to determine: 1) whether significant impacts will occur from the implementation of the Preferred Action; 2) if further consideration of the impacts discussed in the document is needed; and 3) if new issues have arisen that must be addressed in the Environmental Assessment. After the close of the official comment period, comments received on the document will be reviewed and the text of the Environmental Assessment will be modified as required.

If no significant impacts are identified, MDT will submit the revised Environmental Assessment to FHWA and request that the agency make a Finding of No Significant Impact (FONSI). The FONSI will then be attached to the Environmental Assessment.

If significant impacts are found, then MDT and FHWA must determine if an Environmental Impact Statement (EIS) must be prepared to advance the proposed Canyon Ferry Road project.

Additional planned public involvement activities include personal meetings with property owners to discuss the project's proposed access management plan, and how the plan and each property owner's access needs will be implemented.

C. Distribution List for Document

The following agencies, groups, and individuals are being sent a copy of this Environmental Assessment:

FEDERAL, STATE, AND LOCAL AGENCIES WITH INTERESTS IN PROJECT

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
Montana Division Office
2880 Skyway Drive
Helena, MT 59602

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Montana Area Office
P.O. Box 30137
Billings, MT 59107-0137
Attn: Susan Kelly, Area Office Manager

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Canyon Ferry Project Office
7661 Canyon Ferry Road
Helena, MT 59601
Attn: Paul Backlund

U.S. DEPARTMENT OF THE INTERIOR
U.S. Fish & Wildlife Service
100 N. Park, Suite 320
Helena, MT 59601
Attn: Scott Jackson

U.S. ARMY CORPS OF ENGINEERS
Helena Regulatory Office
10 West 15th Street, Suite 2200
Helena, Montana 59626
Attn: Allan Steinle

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service
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MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
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Helena, Montana 59620-0901
Attn: Todd Ellerhoff

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Region 3
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Bozeman, MT 59718
Attn: Pat Flowers, Regional Supervisor

MONTANA DEPARTMENT OF FISH, WILDLIFE & PARKS
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Attn: Jeff Hagener, Director

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Helena, MT 59620-1704
Attn: Todd Everts

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Helena, MT 59623

Eric Griffin, Public Works Director
Lewis & Clark County
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LEWIS AND CLARK COUNTY PLANNING DEPARTMENT
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Attn: Sharon Haugen, Planning Director

City of Helena/Lewis & Clark County
Transportation Coordinator
316 North Park Avenue, Room 438
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CITY OF EAST HELENA
P.O. Box 1170
East Helena, MT 59635
Attn: Ed Murgel, Mayor

HELENA VALLEY IRRIGATION DISTRICT
3840 North Montana Avenue
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Attn: James A. Foster, Manager

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East Helena Lead Education & Abatement Program
#2 South Morton
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Marga Lincoln, Chair
Transportation Choices Subcommittee
432 N Last Chance Gulch
Helena, MT 59601

Unless previous correspondence indicated interest in receiving a copy of the EA, the following individuals were sent a notice announcing availability of EA and advertising the date, time and location of the public hearing.

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D. List of Agencies With Jurisdiction and/or Permits Required

The following agencies have permit requirements applicable to the proposed Canyon Ferry Road project:

U.S. Department of the Army, Corps of Engineers (Regulatory Office) -- *Section 404* Permit for placing fill material associated with road construction in wetlands or other Waters of the U.S.

U.S. Department of Interior, Bureau of Reclamation - Construction Authorization Contract prior to approval of the project. The agreement would allow entry on federally administered easement, the relocation of a portion of the Helena Valley Canal near RP 3.4 and building new highway structures across two sections of the Helena Valley Canal.

Montana Department of Fish, Wildlife & Parks - ***124SPA*** Permit as required under the *Montana Stream Protection Act* for culvert installations and related work in "No Name" Spring Creek and Spokane Creek.

Montana Department of Environmental Quality, Permitting and Compliance Division - Notice of intent to be covered by General Permit for storm water and pollution prevention plan in accordance with *Section 402*/Montana Pollutant Discharge Elimination System.

Lewis and Clark County - Floodplain Development Permit for the proposed highway reconstruction if future work encroaches on the delineated floodplains.

E. List of Other Agencies, Persons, or Groups Contacted or that have Contributed Information

The agencies and individuals below were contacted for information useful to the preparation of this Environmental Assessment.

- James A. Foster, Manager, Helena Valley Irrigation District
- Janet Stetzer, East Helena Lead Education & Abatement Program
- Ed Murgel, Mayor, City of East Helena
- Eric Griffin, Lewis & Clark County Public Works Director
- Kathy Harris, City of Helena/Lewis & Clark County Transportation Coordinator (former)
- Sharon Haugen, Lewis & Clark County Planning Director
- Pat Flowers, Region 3 Supervisor, Montana Department of Fish, Wildlife & Parks
- Robert Habeck, Montana Department of Environmental Quality
- Jeff Ryan, Montana Department of Environmental Quality
- Gary Williams, Montana Department of Natural Resources and Conservation, Central Land Office
- Paul Buchi, Postmaster, East Helena, United States Postal Service

- Scott Jackson, United States Department of the Interior, U.S. Fish & Wildlife Service
- Susan Kelly, Area Manager, United States Department of the Interior, Bureau of Reclamation
- Denny Mailey, Postmaster, Helena, United States Postal Service
- Lex Riggle, United States Department of Agriculture, Natural Resources Conservation Service
- Todd Tillinger, United States Army Corps of Engineers
- R. Mark Wilson, Field Supervisor, U.S. Fish and Wildlife Service

Pertinent correspondence from some of these individuals has been included in **APPENDIX B.**

APPENDICES

Appendix A: List of Preparers

The following parties are responsible for the preparation and content of this document:

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The following consultants assisted the Montana Department of Transportation to coordinate, develop supporting information, and write this document:

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Appendix B: Correspondence Pertinent to this Project

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hvid@initco.net

August 3, 2001

Robert Peccia & Associates
Daniel M. Norderud, AICP
P.O. Box 5653
Helena, MT 59604

Dear Mr. Norderud,

I received your letter dated July 27, 2001 regarding the Canyon Ferry Road project STPS 430-1(5) 1;MDT Control No. 4480.

In your letter you refer to the replacement of a bridge where the road crosses our main canal. I am assuming that are referring to the bridge approximately 3/4 of a mile east of Lake Helena Drive.

Since this action involves a federal easement, NEPA and MEPA requirements must be addressed. A Special Use Permit from the Bureau of Reclamation (BOR) is required. Bridge design drawings and specifications must be submitted along with pertinent information from the EA. The Irrigation District will require that the bridge be a clear span design and that construction is done during the off-season (October 15 through April 15) so that no water deliveries are interrupted.

The permit process with the Bureau of Reclamation takes several months to complete so you may want to get started. I would be happy to work with you on the permit and forward information to the BOR. If you have any questions, feél free to contact me.

JAMES A. FOSTER, MANAGER
HELENA VALLEY IRRIGATION DISTRICT

Date sent: **Tue, 07 Aug 2001 07:51:13 -0600**
From: **"Kathy Harris" <KHARRIS@ci.helena.mt.us>**
To: **<dan@rpa-hln.com>**
Copies to: **<mlincoln@aeromt.org>**
Subject: **Mailing List for Canyon Ferry Road**

Dan,
I received your request for project info for this project (STPS 430-1(5), CN 4480). I am working on tracking down proposed transportation project and will respond by 8/24. You can check the City webpage for a listing of what (I know) is active for the next 2 year period at:

http://www.ci.helena.mt.us/community/transportation/activities.html

Additionally, could you add the following person to your mailing/contact list? Marga Lincoln Chair, transportation Choices Committee (sub-committee of TCC) 432 N Last Chance Gulch Helena, MT 59601 443-7272 mlincoln@aeromt.org

Thanks and good luck on this project. Sounds like a challenge....

Kathy Harris, P.E.
City/County Transportation Coordinator
316 North Park Avenue, Room 438
Helena, MT 59623
phone: 406.447.8457
fax: 406.447.8460
kharris@ci.helena.mt.us

United States Department of the Interior

FISH AND WILDLIFE SERVICE
MONTANA FIELD OFFICE
100 N. PARK, SUITE 320
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

M.44 MDT (I)

August 8, 2001

Daniel Norderud
Robert Peccia & Associates
PO Box 5653
825 Custer Avenue
Helena, Montana 59604

COPY

Dear Mr. Norderud:

This is in response to your July 27 letter regarding Montana Department of Transportation's proposal to reconstruct 13 kilometers of Secondary Highway 430 near Helena in Lewis and Clark County, Montana (Canyon Ferry Road; STPS 430-1(5)1; Control No. 4480). Your letter requested a project specific list of threatened and endangered (T/E) species from the US Fish and Wildlife Service (Service) . These comments have been prepared under the authority of, and in accordance with, the provisions of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et. seq.) and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.).

The Service reviewed the proposed project and determined that mountain plovers *(Charadrius montanus)*, which are proposed for listing as a threatened species, and black-tailed prairie dogs (*Cynomys ludovicianus*), a candidate species, may be present within the action area. However, considering the specific scope, nature and location of this project, we do not anticipate any project related adverse impacts to T/E, proposed or candidate species, or any critical habitat.

Your letter did not indicate whether wetlands might be impacted by the proposed project. If so, Corps of Engineers (Corps) Section 404 permits may eventually be required. In that event, depending on permit type and other factors, the Service may be required to review permit applications and will recommend any protection or mitigation measures to the Corps as may appear reasonable and prudent based on the information available at that time.

This concludes consultation on this project and no further review under S.7 of the Act is necessary. We appreciate your efforts to consider and conserve fish and wildlife resources, including T/E species. If you have questions regarding this letter, please contact Mr. Scott Jackson, of my staff, at (406)449-5225, ext. 201.

Sincerely,

R. Mark Wilson

R. Mark Wilson
Field Supervisor

RECEIVED
AUG 13 2001

LEWIS & CLARK CONSERVATION DISTRICT

790 Colleen Street • Helena, Montana 59601 • 449-5000 ext. 112 • Fax (406) 449-5039

August 14, 2001

Daniel M. Norderud, AICP
Environmental Planner
Robert Peccia & Associates, Inc.
825 Custer Avenue
Helena, MT 59604

RE: Canyon Ferry Road

Dear: Mr. Norderud

Enclosed are the aerial photos showing soil delineations that you requested for the Canyon Ferry Road reconstruction project. The following soils have been designated as prime, state wide, local, or other importance:

33C: State Wide Importance
33B: Prime Importance
137B: Local Importance
218A: State Wide Importance
306A: Other Importance
406A: Other Importance
413A: Prime and State Wide Importance
513A: State Wide Importance
533B: State Wide Importance
569A: State Wide Importance

If you have any questions please call me at 449-5000 ext. 112.

Sincerely,

LEWIS & CLARK CONSERVATION DISTRICT

Chris Evans
District Administrator

East Helena Lead Education & Abatement Program
#2 South Morton
PO Box 1231
East Helena, MT 59635
(406) 227-8451

June 8, 2002

Mr. Mark Lambrecht
Robert Peccia and Associates
825 Custer Avenue
Helena, MT 59604

Dear Mr. Lambrecht,

It was my pleasure to speak with you on the phone recently.

I have discussed your concerns with our advisory committee and they agree that there is minimal risk of your laborers encountering dangerously elevated lead levels in the soil along Canyon Ferry Road. Typically, soil lead levels in that area are very close to background level. Although flooding has occurred in the area between Wylie Drive and Valley Drive, we have no evidence of dangerously elevated lead levels in that area. As a standard precaution, I would recommend the following basic hygiene practices:

- Do not eat or smoke in the work area.
- Wash well before eating or smoking.
- Do not wear work clothes or shoes into your home.
- Wash work clothes separately from children's clothing.
- Do not allow pets or children in the work area.

Thank you for your inquiry. If I can be of further assistance, please call me at 227-8451.

Best regards,

Janet Stetzer R.S.

Janet Stetzer, RS
Program Coordinator

HELENA VALLEY IRRIGATION DISTRICT
3840 North Montana Avenue
Helena, Montana 59602
(406) 442-3292

September 17, 2002

Robert Peccia & Associates
Mr. Tom Cavanaugh, P.E.
P.O. Box 5653
Helena, MT 59604

Subject: Highway MDT Project No. STPS 430-1-(5)1
Canyon Ferry Road Preliminary Plan

Dear Mr. Cavanaugh,

We discussed the proposed replacement bridges that cross the Helena Valley Canal. We support the replacement of the bridges so long as they are a clear span design.

We have a concern with the design on Sheet 45. Your design shows that the new highway easement will cut into our existing canal easement. This is unacceptable for several reasons. First, the removal of bank material could compromise the bank stability integrity. Second, our access road would be eliminated preventing maintenance equipment and ditch riders access to the north side of the canal.

When we spoke about this, you indicated that you would try to purchase right of way south of the canal and if grade would allow, move this stretch of canal south leaving us with the same easement dimensions as original.

Please get back to me before the MDT October 7 meeting regarding our concerns. Thank you.

Sincerely,

Jim Foster

JAMES A. FOSTER, MANAGER
HELENA VALLEY IRRIGATION DISTRICT

cc: Michael Petronis
Bureau of Reclamation
Montana Area Office
P.O. Box 30137
Billings, MT 59107-0137

United States Department of the Interior
BUREAU OF RECLAMATION
Great Plains Region
Montana Area Office
P.O. Box 30137
Billings, Montana 59107-0137

IN REPLY
REFER TO:

MT-432
LND-6.00

SEPTEMBER 24 2002

RECEIVED
SEP 25 2002
ROBERT PECCIA
& ASSOCIATES

Robert Peccia and Associates
Attn: Tom Cavanaugh
P.O. Box 5653
Helena, MT 59604

COPY

Subject: Highway MDT Project No. STPS 430-1(5)1
Designation: Canyon Ferry Road, Helena Valley Road

Dear Mr. Cavanaugh:

We have reviewed the preliminary plans for the subject project and offer the following comments in regard to the Helena Valley Canal.

Canyon Ferry Road Stationing 48+40 to 49+80 45 (TRC)

The road configuration shown on Sheet 5 is unacceptable. The road may not cut into the canal bank as presently shown. The road must either be moved north or arrangements be made to move the canal south. Under either scenario, the following conditions must be met:

1. The cross section of the canal prism and banks must remain the same as the dimensions of the existing canal section.

2. The width of the existing O&M road must be maintained.

3. The overall width of the canal and O&M road right-of-way must be maintained.

4. If the canal is moved, the minimum radius of any curve in the canal must be no less than ten times the width of the water surface at the normal operating elevation of the canal.

Canyon Ferry Road Stationing 87+66

The new bridge shall be a clear span, meet all federal and state design requirements, and have a minimum distance from high canal water surface elevation to bottom span elevation of 2 feet.

Canyon Ferry Road Stationing 162+05

The new bridge shall be a clear span, meet all federal and state design requirements, and have a minimum distance from high canal water surface elevation to bottom span elevation of 2 feet.

In regards to your August 5, 2002 inquiry about the timber stock bridge that crosses the Helena Valley Canal at approximate canal stationing 705+40, Reclamation has an easement granted November 7, 1957 from Nickolaus and Catherine Poepping (copy enclosed), on the lands identified. There is no reference to the bridge in the easement. If it is determined that a new bridge is necessary, you will need to send us a written request for an Acknowledgement of Easement Crossing. Also, to ensure that your proposed project does not interfere with Reclamation's dominant easement, a subservient easement needs to be procured from the underlying landowner, if applicable. The new bridge would be required to clear span the canal and have a minimum distance from the high canal water surface to bottom span elevation of 2 feet.

I will not be available to attend the October 7th design review meeting; however, if you have any questions or need any other information concerning the canal in relation to the widening of Canyon Ferry Road, please contact me at (406) 247-7312.

Sincerely,

Michael Petronis

Enclosure

cc: Helena Valley Irrigation District
Attn: Jim Foster
3840 North Montana
Helena, MT 59602

Form 6-17
LA (2-53)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
HELENA VALLEY UNIT
MISSOURI RIVER BASIN PROJECT

Contract No. 14-06-600-2911
Parcel No. 18

GRANT OF EASEMENT

THIS INDENTURE, Made this 7th day of November 1957, pursuant to the Act of Congress of June 17, 1902 (32 Stat. 388), and all acts amendatory thereof or supplementary thereto, particularly the act of Congress of August 4, 1939 (53 Stat.1187), and the Act of December 22, 1944 (58 Stat. 887), between the United States of America hereinafter referred to as United States, and Nickolaus H. Peepping and Cathrine Peepping, husband and wife hereinafter collectively referred to as Vendor.

WITNESSETH:

The following grant and the following mutual covenants by and between the parties:

1. For the consideration hereinafter expressed the Vendor does hereby grant unto the United States and to its successors and assigns forever a right of way and easement, together with all the rights and privileges incident to the use and enjoyment thereof, including but not limited by this recital to the right of ingress and egress, to construct, maintain and operate an irrigation canal, ditch, or lateral, with appurtenant structures over and across the following described premises in the County of Lewis and Clark, State of Montana, to wit:

West Half of the Northeast Quarter ($W\frac{1}{2}NE\frac{1}{4}$), and the South Half of the Northwest Quarter ($S\frac{1}{2}NW\frac{1}{4}$) of Section Twenty (20), Township Ten (10) North, Range Two (2) West, Principal Meridian, more particularly described as follows: A strip of land with a beginning width of 95.0 feet, being 35.0 feet on the left and 60.0 feet on the right of the following described center line: Beginning at a point on the North line of Sec. 20, T. 10 N., R. 2 W., P.M., 1017.8 feet easterly from the North Quarter Corner of said Sec. 20, thence S.0°32'E., 204.9 feet, thence on a curve to the right with a 400.0 foot radius, 310.2 feet, thence S.43°54'W., 334.8 feet, thence on a curve to the left with a 400.0 foot radius, 160.6 feet, thence S.20°54'W., 157.9 feet, thence on a curve to the left with a 300.0 foot radius, 172.8 feet, thence S.12°06'E., 151.1 feet at which point the width to the left of the center line increases to 95.0 feet, thence on a curve to the right, with a 300.0 foot radius, 362.3 feet, thence S.57°06'W., 541.7 feet, thence on a curve to the right with a 1000.0 foot radius, 129.7 feet, thence S.64°32'W., 123.3 feet at which point the width to the left of the center line increases to 60.0 feet, thence continuing S.64°32'W., 100.0 feet at which point the width to the right of the center line increases to 70.0 feet, thence continuing S.64°32'W., 832.4 feet, thence on a curve to the right with a 500.0 foot radius, 187.0 feet, thence S.85°50'W., 409.5 feet, thence on a curve to the right with a 500.0 foot radius, 121.1 feet at which

point the width to the left of the center line increases to 70.0 feet, thence continuing on said curve to the right with a 500 foot radius, 161.4 feet, thence N.61°40'W., 518.5 feet, thence on a curve to the left, with a 400 foot radius, 50.1 feet at which point the width to the right of the center line increases to 110.0 feet, thence continuing on said curve to the left with a 400 foot radius, 148.6 feet, thence S.89°52'W., 62.9 feet to a point on the West line of said Sec. 20, 511.8 feet northerly from the West Quarter Corner of said Sec. 20. Also a strip of land in the Southwest Quarter of the Northwest Quarter ($SW\frac{1}{4}NW\frac{1}{4}$) of Section Twenty (20), Township Ten (10) North, Range Two (2) West, Principal Meridian, more particularly described as follows: A strip of land 80.0 feet wide, being 40.0 feet on each side of the following described center line: Beginning at a point on the northern boundary of the right-of-way described above, 612.2 feet North and 161.1 feet East from the West Quarter Corner of Sec. 20, T. 10 N., R. 2 W., P.M., thence N.50°54'E., 320.0 feet to a point 814.0 feet North and 409.5 feet East from the West Quarter Corner of said Sec. 20, and containing in all 14.75 acres, more or less.

Checked for Engineering Data 5-27-57

Engineer Walter W. Flange

radius, 129.7 feet, thence S.64°32'W., 123.3 feet at which point the width to the left of the center line increases to 60.0 feet, thence continuing S.64°32'W., 100.0 feet at which point the width to the right of the center line increases to 70.0 feet, thence continuing S.64°32'W., 832.4 feet, thence on a curve to the right with a 500.0 foot radius, 187.0 feet, thence S.85°58'W., 409.5 feet, thence on a curve to the right with a 500.0 foot radius, 121.1 feet at which

United States Department of the Interior
BUREAU OF RECLAMATION
Great Plains Region
Montana Area Office
P.O. Box 30137
Billings, Montana 59107-0137

IN REPLY
REFER TO:
MT-432
LND-6.00

FEBRUARY 14 2003

Robert Peccia and Associates
Attn: Tom Cavanaugh
P.O. Box 5653
825 Custer Avenue
Helena, MT 59604

Subject: Highway MDT Project No. STPS 430-1(5)1
Designation: Canyon Ferry Road
Helena Valley Road

Dear Mr. Cavanaugh:

In response to your letter of January 13, 2003, we offer the following comments:

1. **Bureau of Reclamation Contact Person**

For this project, please address correspondence as follows: Ms. Susan Kelly, Area Manager Montana Area Office P.O. Box 30137, Billings, MT 59107-0137 Attention: Mike Petronis.

Concerning the permitting process, Reclamation will not require a special use permit because our right-of-way for the land is an easement rather than fee title interest. However, Reclamation will require the processing of a Construction Authorization Contract prior to approval of the project. Please see Response 4. below for further information. Mike Petronis will work with the appropriate persons in our office to process your requests and attempt to simplify the communications process for your office. Please continue to provide copies of all correspondence to Jim Foster.

2. **Minimum Cover Requirements over Siphons**

In regards to the minimum cover requirements over siphons, Reclamation design standards state: "At all siphons crossing under roads other than farm roads and siphons crossing under railroads, a minimum of 3 feet of (compacted) earth cover should be provided. If roadway ditches exist and are extended over the pipe, the minimum distance from the ditch to the top of the pipe should be 2 feet (of compacted backfill)." If the cover over the pipe is less than 3 feet at any location, Reclamation will also require that a concrete cap be installed over the

siphon pipe to protect it from any future excavation activities. In addition, the final design of the roadway over the siphon will need to be submitted to Reclamation's Great Plains Regional Office Technical Services Group for approval. Depending on the degree of reduction of cover over the siphon, Reclamation may require inspection of the inside of the siphon pipe to ensure its integrity prior to approval of the road construction.

3. Subsurface Utility Engineering

Reclamation concurs with the proposal to perform "soft locates" using a vacuum excavator on all of Reclamation's buried structures that will remain in place. Please notify us at least ten days in advance of these excavating activities so we may have the opportunity to witness the excavating process.

4. Proposed Canal Relocation Right of Sta. 49+00 (Project Stationing)

Since Reclamation holds an easement from the underlying landowner for the section of canal that is to be relocated, we recommend the following process for completion of the canal relocation:

a. The Montana Department of Transportation (MDT) will need to acquire a permanent easement in the name of the Bureau of Reclamation for the area where the new canal will be located and provide our office with the appropriate documentation. If you have any questions regarding the existing canal easement, please contact our Realty Specialist, Susan Stiles at 406-247-7316.

b. Once documentation of the new easement is received, specifications and drawings for the canal relocation will need to be approved by Reclamation. There are two options for completion of the specifications and drawings:

(1) You may utilize Reclamation's design standards (available from George Gliko, Civil Engineer, Great Plains Regional Office Technical Services Group, 406-247-7651) to develop specifications and drawings for the canal relocation and submit them to this office. Mr. Petronis will coordinate with Reclamation's Great Plains Regional Office Technical Services Group for review and approval, or

(2) You may request that Reclamation's Great Plains Regional Office Technical Services Group develop the specifications and drawings for the canal relocation and submit them to you for your use. The cost for development of the specifications and drawings must be provided to Reclamation in advance of commencement of the work.

In either case, the final canal relocation specifications and drawings should be submitted to your contractor for inclusion into the overall scope of work. Reclamation will send a Construction Inspector to inspect the work performed by your contractor during the canal relocation to ensure the work meets the requirements of the specifications. Depending on

the duration of the construction, Reclamation may require reimbursement for the Construction Inspector's activities.

c. Once documentation of the new easement is received and final construction plans are approved by our office, Reclamation will prepare a Construction Authorization Contract to be signed by our office and MDT. The Construction Authorization Contract will contain provisions necessary to:

(1) Protect the Helena Valley Canal and associated laterals and siphons from damage.

(2) Ensure unrestricted flow and adequate water quality in the Helena Valley Canal.

(3) Not diminish the ability to operate, maintain and access the Helena Valley Canal.

(4) Protect and provide for the unrestricted use of Reclamation's easement for the Helena Valley Canal.

(5) Prevent an unreasonable burden of liability to Reclamation.

d. In order to ensure uninterrupted delivery of irrigation water, construction related to the relocation of the canal must be scheduled to guarantee the operation of the canal between April 1 and October 1. (i.e. the canal may be out of service only from October 2 to March 31).

In regards to your January 6th inquiry concerning drawings for the bridge at Helena Valley Canal stationing 183+52, we have searched our records and have only located drawing 596-D-162. This is the same drawing as was provided to you by Mr. Jim Foster. Apparently the bridge was not constructed as was originally planned or was modified since its original construction. In either case, the records for this modification are unavailable. If you have any questions or need additional information, please contact Mike Petronis at 406-247-7312.

Sincerely,

Susan J. Kelly
Area Manager

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request February 27, 2003
Name of Project **CANYON FERRY ROAD** **STPS 430-1 (5) 1; Control No. 4480**	Federal Agency Involved **U.S. DOT Federal Highway Administration/** **Montana Department of Transportation**
Proposed Land Use **Road Reconstruction and New R/W**	County and State **Lewis and Clark County, Montana**
PART II *(To be completed by SCS)*	Date Request Received by SCS 2/27/03

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form).*	Yes ☒	No ☐	Acres Irrigated 9.12	Average Farm Size 1638
Major Crop*(s)* Barley, Winter Wheat, Alfalfa	Farmable Land in Govt. Jurisdiction Acres: 0 %		Amount of Farmland As Defined in FPPA Acres: 45.8 %	
Name of Land Evaluation System Used LESA	Name of Local Site Assessment System Lewis and Clark		Date Land Evaluation Returned by SCS 3/4/03	

PART III *(To be completed by Federal Agency)* Land Evaluation Information	Alternative Site Rating		
	Proposed Action	Alternatives	Existing Highway (No-Action)
A. Total Acres To Be Converted Directly (Area of farmland within new R/W)	43.8	NA	0.0
B. Total Acres To Be Converted Indirectly	0.9	NA	0.0
C. Total Acres in Site (Total Acres of New or Existing Right-of-Way)	141.5	NA	41.8
PART IV *(To be completed by SCS)* Land Evaluation Information			
A. Total Acres Of Prime And Unique Farmland	6		1.7
B. Total Acres Of Statewide or Local Important Farmland	27		8
C. Percentage Of Farmland in County or Local Govt. Unit To Be Converted	.04		.01
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	0		0
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	65		65

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points			
1. Area in Nonurban Use	15	12		
2. Perimeter in Nonurban Use	10	8		
3. Percent of Site Being Farmed	20	10		
4. Protection Provided by State and Local Government	20	0		
5. Distance From Urban Builtup Area	N/A	-		
6. Distance to Urban Support Services	N/A	-		
7. Size of Present Farm Unit Compared to Average	10	9		
8. Creation of Nonfarmable Farmland	25	0		
9. Availability of Farm Support Services	5	5		
10. On-Farm Investments	20	20		
11. Effects of Conversion on Farm Support Services	25	0		
12. Compatibility With Existing Agricultural Use	10	5		
TOTAL SITE ASSESSMENT POINTS	160	69		
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland *(From Part V)*	100	65		
Total Site Assessment *(From Part VI above or a local Site assessment)*	160	69		
TOTAL POINTS *(Total of above 2 lines)*	260	134		

Site Selected: Action As Proposed	Date of Selection 3-4-03	Was a Local Site Assessment Used? Yes ☐ No ☒

Reason For

(See Instructions on reverse side)

Form AD-1006 (10-83)

STEPS IN PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (**FPPA**) to nonagricultural uses, will initially complete Parts I and III of form.

Step 2 - Originator will send copies A, B, and C together with maps indicating locations of site(s), to the Soil Conservation Service (SCS) local field office and retain copy D for their files. (Note: SCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the SCS State Conservationist in each state).

Step 3 - SCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step 4 - In cases where farmland covered by the **FPPA** will be converted by the proposed project, SCS field offices will complete Parts II, IV, and V of the form.

Step 5 - SCS will return copy A and B of the form to the Federal agency involved in the project. Copy C will be retained for SCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 - The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the **FPPA** and the agency's internal policies.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

Part I : In completing the "County and State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

Part III: In completing item B (Total Acres to Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.

2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

Part VI: Do not complete Part VI if a local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will be weighted zero, however, criterion # 8 will be weighted a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the **FPPA** rule. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the **FPPA** rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

Part VII: In computing the "Total Site Assessment Points", where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points; and alternative Site "A" is rated 180 points:

$$\frac{\text{Total Points assigned to Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site "A"}$$

MONTANA HISTORICAL SOCIETY
225 North Roberts ❖ P.O. Box 201201 ❖ Helena, MT 59620-1201
❖ (406) 444-2694 ❖ FAX (406) 444-2696 ❖ www.montanahistoricalsociety.org ❖

February 14, 2002

JON AXLINE
MDT
2701 PROSPECT AVENUE
PO BOX 201001
HELENA MONTANA 59620 1001

RE: STPS 430-1(5)1 Canyon Ferry Road Control No. 4480

Dear Jon,

Our records show that site 24LC1062 was left unresolved on a consultation with the BOR, and not as you say in your letter. Since the BOR may own the irrigation system components, it is important that we hear from them before we comment on the other irrigation properties listed in this report. We concur with your findings of eligibility on sites 24LC1688, 24LC1689, and 24LC1690 in that they are determined to be not eligible to the register.

If you have any questions or concerns about the points presented, please call me at (406) 444-0388.

Sincerely,

Josef J Warhank
Review & Compliance Officer

File: MDT/2002

STATE HISTORIC PRESERVATION OFFICE ❖ 1410 8th Ave ❖ P.O. Box 201202 ❖ Helena, MT 59620-1202
❖ (406) 444-7715 ❖ FAX (406) 444-6575

United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office
P.O. Box 30137
Billings, Montana 59107-0137

IN REPLY
REFER TO:

MT-227
ENV 3.00

MAY 10 2002

Dr. Mark Baumler
State Historic Preservation Officer
Montana Historical Society
PO Box 201202
Helena MT 59620-1202

Subject: Notification of Consultation - **Canyon Ferry Road Highway Project STPS 430-1(5)1, Lewis and Clark County, Montana** MTAO Project No. HV-02-029

Dear Mark:

The Montana Area Office (MTAO) of the Bureau of Reclamation (Reclamation) has been consulted in regards to the proposed Montana Department of Transportation (MDT) Project titled: Canyon Ferry Road Highway Project STPS 430-1(5)1, Lewis and Clark County, Montana.

I have reviewed the report titled: A Cultural Resource Inventory (Rossillon, 2001) and have found it adequate in its review of cultural resources. This report was provided your office by Jon Axline, Historian of the MDT Environmental Services section. In his cover letter to your office dated January 28, 2002, he states: "...RTI recorded eight irrigation ditches within the APE (24LC1691-1698). The ditches are covered under the terms of the MDT's irrigation ditch programmatic agreement and no determinations of eligibility for National Register purposes are required."

The above statement is in error. Various portions of the Helena Valley Irrigation Unit (24LlC1062) are impacted. This includes the main canal and laterals. As stated on page 23 of the above-mentioned report, these features are portions of the U.S. Bureau of Reclamation's (BOR) Helena Valley Unit. As you are aware, Reclamation features **are not** covered by the MDT programmatic agreement as the BOR is not a signatory. Determinations of eligibility for National Register purposes are therefore required.

Upon review of the documentation found in A Cultural Resource Inventory (Rossillon, 2001) we feel that the proposed Canyon Ferry Road Highway Project STPS 430-1(5)1 does not alter any of the characteristics of the Helena Valley Irrigation Unit is such a way as to diminish the qualifying characteristics that would make it eligible for the National Register. We feel that a finding of **No historic properties affected** would be appropriate.

We are providing a copy of this letter to Jon Axline, MDT so that he may consult with your office in regards to this project.

If you have any questions, please contact me at (406) 247-7329 or by e-mail at wvincent@gp.usbr.gov.

Sincerely,

William B. Vincent
Area Archaeologist

cc: Jon Axline, Historian
Environmental Services Unit
Montana Department of Transportation
PO Box 201001
Helena MT 59620-1001

United States Department of the Interior

BUREAU OF RECLAMATION
Great Plains Region
Montana Area Office
P.O. Box 30137
Billings, Montana 59107-0137

RECEIVED
MAY 13 2002
ENVIRONMENTAL

MASTER FILE COPY

IN REPLY REFER TO:
MT-227
ENV 3.00

MAY 10 2002

Jon Axline, Historian
Environmental Services Unit
Montana Department of Transportation
PO Box 201001
Helena MT 59620-1001

Subject: Copy of Letter to SHPO on Canyon Ferry Road Highway Project STPS 430-1(5)1

Dear Jon:

Enclosed is a copy of a letter I sent to the SHPO in regards to the above-mentioned project. As you know, Bureau of Reclamation Systems are not covered by the programmatic agreement (PA). Since the Helena Valley Irrigation Unit (24LC1062) is impacted, a determination of eligibility or a finding of no historic property affected is required.

The enclosed letter states that the Montana Area Office feels that the proposed project will not impact 24LC1062 in such a way as to make it ineligible for the National Register. We recommend that you request a finding of **No historic properties affected** from the SHPO. When you receive concurrence from his office, please send us a copy.

Please keep in mind as the project progresses to have MDT continue to coordinate the project with Mike Petronis (engineering) and Sue Stiles (realty). They may be reached at (406) 247-7312, and (406) 247-7316, respectively.

Sincerely,

William B. Vincent
Area Archaeologist

Enclosure

United States Department of the Interior
BUREAU OF RECLAMATION
Great Plains Region
Montana Area Office
P.O. Box 30137
Billings, Montana 59107-0137

RECEIVED
DEC 19 2002

DECEMBER 18 2002

IN REPLY
REFER TO:
MT-227
ENV-3.00

MASTER FILE
COPY

Jon Axline, Historian
Environmental Services
Montana Department of Transportation
2701 Prospect Avenue
P.O. Box 201001
Helena, MT 59620-1001

Subject: Canyon Ferry Road Addendum, STPS 430-1(5)1, Control No. 4480

Dear Mr. Axline:

Thank you for the copy of the addendum to the cultural resource report for the above listed project in Lewis and Clark County.

We agree with the recommendation in the report that the Helena Valley Irrigation Unit (24LC1062) is not eligible for the National Register because of its recent construction. A copy of the Determination of Effect when received will be appreciated.

If you have any questions, please contact me at 406-247-7329 or by e-mail at wvincent@gp.usbr.gov.

Sincerely,

William B. Vincent
Area Archaeologist

MONTANA HISTORICAL SOCIETY
225 North Roberts ❖ P.O. Box 201201 ❖ Helena, MT 59620-1201
❖ (406) 444-2694 ❖ FAX (406) 444-2696 ❖ www.montanahistoricalsociety.org ❖

January 3, 2003

JON AXLINE
MDT
2701 PROSPECT AVENUE
PO BOX 201001
HELENA MONTANA 59620 1001

RE: STPS 430-1(5)1 Canyon Ferry Road (Addendum) Control No. 4480

Dear Jon,

We can concur that the Charles Mann Farmstead (24LC1762) is not eligible for the Register. We are a little unclear as to what you want on the Helena Valley Irrigation Unit (24LC1062). After reviewing the letter from Bill Vincent, dated 10 May 2002, we would concur that due to the design of the project you will not affect it, but since we have no additional information on the site, it will remain unresolved as to eligibility.

If you have any questions about any points that I have made, you may call me at (406) 444-0388.

Sincerely,

Josef J Warhank
Review & Compliance Officer

file: MDT/2003

STATE HISTORIC PRESERVATION OFFICE ❖ 1410 8th Ave ❖ P.O. Box 201202 ❖ Helena, MT 59620-1202
❖ (406) 444-7715 ❖ FAX (406) 444-6575

Appendix C: Public Involvement

Top dog slugger

Bonds demeanor not changing despite media attention from homerun chase / 1B

Bush faces protests

Comments on global warming, capital punishment met with anger in Europe / 2A

INDEPENDENT RECORD

TUESDAY, JUNE 12, 2001 ■ HELENA, MONTANA ■ VOL. 57, NO. 193 ■ FIFTY CENTS

TOM CAVANAUGH of Robert Peccia & Associates stands atop of one of the hills on Canyon Ferry Road that will be redesigned.

George Lane /*IR Staff Photographer*

Canyon Ferry Road to be redesigned

By MARTIN J. KIDSTON
IR Staff Writer

Anticipated growth in the Helena Valley has prompted the Montana Department of Transportation to begin the redesign and eventual reconstruction of Canyon Ferry Road.

MDT announced it has embarked on an $8 million effort to rebuild 10 miles of the road, officially known as Highway 430, between York and Spokane Creek roads.

Project Manager Tom Cavanaugh of Robert Peccia & Associates, the company contracted by MDT, said the project is intended to improve the highway's safety and traffic capabilities. A traffic count revealed that on average 3,500 vehicles use the road each day.

"The traffic volume is pretty substantial for a collector road," Cavanaugh said. "The development just continues to increase and (the area) has been slated for continued development through the county's planning department."

More ROAD, *page 8A*

COMMENTS

To comment on the project, contact Tom Cavanaugh, project manager with Robert Peccia & Associates, (447-5000), or at P.O. Box 5653, Helena, MT 59604. Project comments may also be sent to Jason Glard at (406) 444-9510, or at Montana Department of Transportation, P.O. Box 3068, Butte, MT 59702.

Road

EXPECT ROAD DELAYS

Workers will begin drilling along Canyon Ferry Road today to gather soil information needed for preliminary engineering work for proposed road improvements. The work will result in one traffic lane being closed for a short distance around the drilling rig. The work is expected to last about two weeks. Drilling will begin at the western-most portion of the project near the Priddy Pear Water Treatment Plant. Drilling crews will move east, eventually reaching the intersection of Canyon Ferry Road and Spokane Creek Road.

continued from 1A

Cavanaugh said reconstruction of the road would include rebuilding the existing roadbed to make it wider, including shoulders and turn lanes. New pavement will be laid, sharp curves will be eliminated and steep hills will be reduced to a lesser grade.

"We're looking to reconstruct that road all the way to Spokane Creek Road, including the reconstruction of that nasty intersection out there," Cavanaugh said. "We're not quite certain how we're going to do that yet. We'll have to look at all the alternates."

A series of public hearings would be held for public input, Cavanaugh said. If public interests were high enough, Cavanaugh said, bicycle lanes could be considered in the project.

"Bicyclists have been mentioned a lot at past meetings and it's something the county is concerned about," Cavanaugh said. "A lot of that will come out at the public meetings. If the public really wants it, we will try to implement it into the project."

The entire project, Cavanaugh said, is in the early stages of development.

Road crews will begin taking soil samples today and design studies will begin shortly after. The first public hearing could be held in upcoming months, while acquiring the rights-of-way could take an additional year. Cavanaugh said construction wouldn't likely begin until 2005.

"Construction isn't something that's going to happen in the next year or two," Cavanaugh said, adding that MDT "really wants to see this project through."

Cavanaugh said because of the project's cost, estimated between $7 and $8 million, it would be let in two phases and completed as two separate jobs.

The western-most portion of the project, between York Road and Lake Helena Drive, will be completed first.

Cavanaugh said the area is quickly becoming urban and the road would probably be constructed to include curbs and gutters.

"There's different types of development out there, and the first part of the project will be residential," Cavanaugh said.

As funding becomes available, the project will move east where Canyon Ferry and Spokane Creek roads come together near the Glass Slipper.

Jason Glard of MDT said more would be known about the project as the public hearing process nears.

"We just got the consultant hired and are just getting started," Glard said. "A lot of those things we won't know until we hold the public hearings."

Glard said upgrading Canyon Ferry Road has been a high priority for Lewis and Clark County for some time. Reconstruction won't cost the county anything, Glard said, as the project will be paid with money from state and federal gas taxes.

Lewis and Clark County Public Works Director Eric Griffin said the county would remain involved throughout the process.

Griffin also said the county wants to demonstrate awareness regarding alternative modes of transportation, such as biking and walking.

"Some of that might be limited on how much right-of-way is available," Griffin said.

NFL lineman dies

Vikings offensive lineman Korey Stringer dies after suffering from heat stroke / 1B

Tetanus rationing

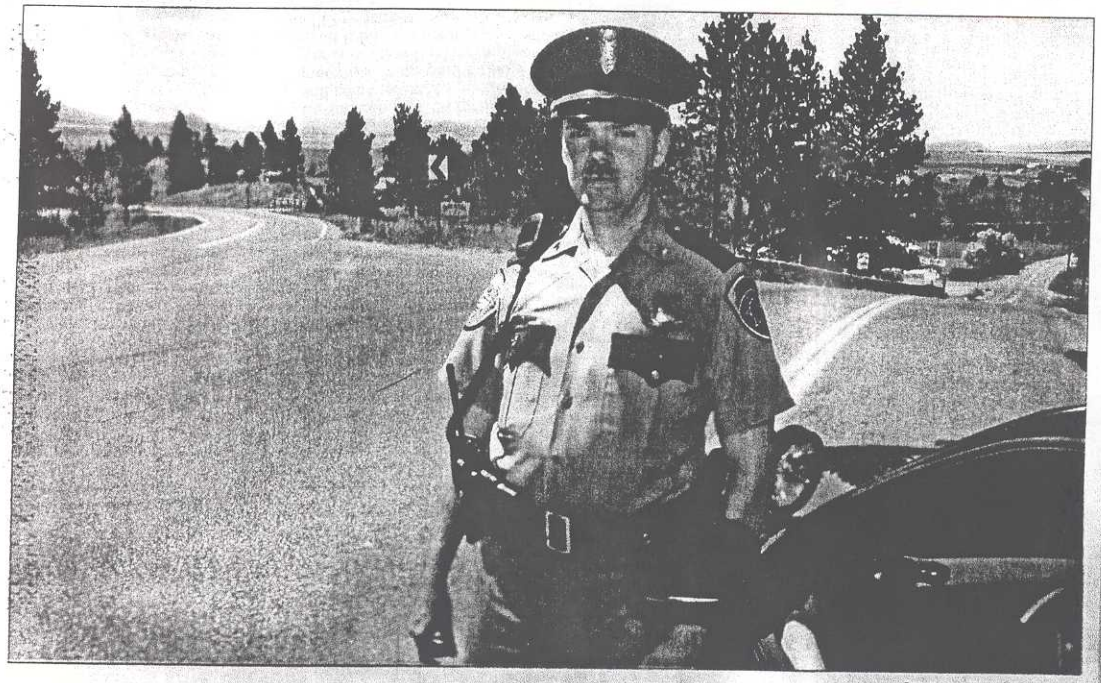
Nationwide shortage of tetanus vaccine prompts rationing in Lewis and Clark County / 8A

INDEPENDENT RECORD

THURSDAY, AUGUST 2, 2001 ■ HELENA, MONTANA ■ VOL 57, NO. 244 ■ FIFTY CENTS

Driver beware

Canyon Ferry Road becoming known for its bad wrecks



SGT. MIKE TOOLEY OF THE MONTANA HIGHWAY PATROL stands at the intersection of Canyon Ferry Road and Spokane Creek Road. This intersection was the site of Helena's latest traffic fatality.

By CAROLYNN FARLEY
IR Staff Writer

When Montana Highway ıtrol Sgt. Mike Tooley sponds to a wreck on Canyon erry Road, he grits his teeth ıd hopes for the best.

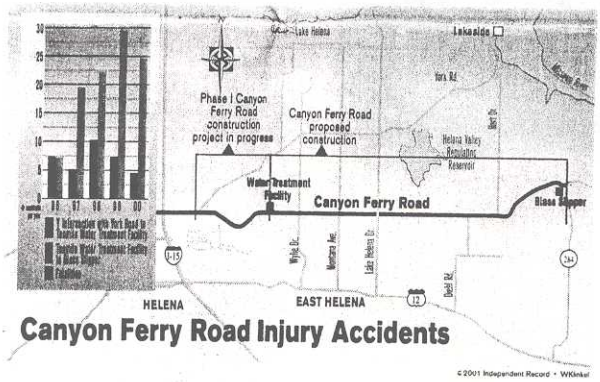
Unfortunately, during the mmer months especially, no nount of wishful thinking can ase the fact that the wrecks ong that stretch of road east Helena likely will involve juries — and sometimes, talities, he added.

"That's what we expect ien we head out there in the mmer months," Tooley said. That said, and despite a recent rash of injury accidents on the secondary highway including a fatal wreck, Tooley explained that he wouldn't characterize the popular route to Canyon Ferry Lake as a dangerous road.

"I don't think the road itself is dangerous," he said. "It's just that all the factors that cause crashes are way up on that road at this time of year."

During the winter months, the volume of traffic on Canyon Ferry Road is down and motorists appear to take factors such as road condition seriously, Tooley said.

More **BEWARE**, *page 10A*



MDT: Road in good shape, but could use some improvements

By CAROLYNN FARLEY
IR Staff Writer

Tearing up Canyon Ferry Road d installing a four-lane highway its place would probably be an treme measure to address a per- ived danger on the popular route Canyon Ferry Lake.

"It's a fairly decent road right now if people drive at a reasonable speed and pay attention," according to Jason Giard, district engineer with the Montana Department of Transportation.

However, a little improvement wouldn't hurt, he added.

In fact, road crews are immersed in a $1.75 million project that will reconstruct and realign Canyon Ferry Road near its intersection with York Road.

The mile-long project removes the curves that Giard said have claimed the lives of about 10 people in the past 10 years, widens the road to accommodate two 12-foot driving lanes and replaces a bridge.

MDT employees anticipate the project will be completed and open to motorists this fall.

Officials also intend to align York Road to meet Canyon Ferry

More **MDT**, *page 10A*

MPC expects approval for sale to NorthWestern

lion. Montana Power's stock dropped | MPC stock takes tumble

Suspended do alleged to be treating patie

Shodair denies cl of former employ

By BOB ANEZ
Associated Press Writer

HELENA — A psychiatrist who lo license over allegations he used drug hypnosis to convince a patient she ki scores of people in satanic rituals, ha involved in treating patients at a chil hospital here, some former employee charge.

They told The Associated Press th Bennett Braun had direct patient co recommended diagnoses and treatm participated in therapy sessions with when he first came to work at Shod dren's Hospital.

A hospital executive denies the a but the claims prompted an inquiry b cials in the state Department of Publ and Human Services.

"If these accusations are accurate very concerned," said Gail Gray, a director. "Children served at Shodai very vulnerable and they're deserv cial protection."

The former staffers said Braun w clinical director and manager of the dren's unit for 4½ months, during w say he had frequent dealings with pa

Shodair says Braun currently serv liaison between the hospital and insur companies, supplying reports on diag and treatment given insured patients.

But Renee Benanini, director of nu Shodair for two years until November

More **SHODAIR**, *page 10A*

Hardee's worker accused of $34,0 embezzling sche

By CAROLYNN FARLEY
IR Staff Writer

Two Helena residents are facing cri charges for allegedly embezzling almo $34,000 from Hardee's over a two-year

Lewis and Clark County prosecutors charges of theft by accountability agai Donald Jay Freeman, 37, and Julianne Burke, 22, this week.

Justice of the Peace Wally Jewell se for the pair at $40,000 apiece.

According to court documents, Free was employed as an assistant manager fast food restaurant while Burke was employed as a shift leader.

Investigators believe that, under the tion of Freeman and Burke, employees ing the drive-through window at the bu followed inappropriate operating proce that allowed Freeman and Burke to po profits from the business at a rate that times, exceeded $100 a night.

According to witnesses, the pair enc aged their subordinates to circumvent ny safeguards against theft by instruct them to refrain from punching orders i the drive-through into the store's comp

By passing orders to the cooks orall instead of by computer

MDT: Consultant has been hired for work

continued from 1A

Road at a 90-degree angle, or a "T" intersection instead of the current "Y."

Within a few years, Giard said, the city plans to extend York Road further west, allowing traffic

Also on the drawing board at MDT is a plan to extend road improvements on 10 miles of Canyon Ferry from where the current project terminates to the intersection of Canyon Ferry and Spokane Creek roads.

According to Giard, a consultant has been hired to flesh out the details of the project estimated to cost between $7 million and $8 million and to begin in 2004.

"We're really just getting started," he said. "Where we go with it is kind of up to the landowners and the county commissioners."

Reconstruction of the road will include rebuilding the existing roadbed to make it wider, including shoulders and turn lanes. New pavement will be laid, sharp curves will be eliminated and steep hills will be reduced to a lesser grade.

Giard said engineers have not made any determination about how to best address the intersection of Canyon Ferry and Spokane Creek roads — further investigation may show that it needs to be completely reconfigured.

A recent traffic count indicated that the road logs about 3,450 trips per day.

In addition, a 10-year analysis of wrecks along the route indicates that, in some areas, the accident rate exceeds the statewide average for the rural secondary system while the severity of the wrecks is less than the statewide averages. Those statistics flip-flop in other areas of the road.

MDT officials explain that the majority of accidents along Canyon Ferry Road occur at intersections — accident statistics are bolstered by other [illegible] occurring at seemingly [illegible]cations along the road.

While most people agree that Canyon Ferry Road needs improvements, Giard admits that the form those take depends heavily on how the public reacts to the proposal.

He added that the ongoing construction project near the York and Canyon Ferry intersection was, logistically, simple — it involved a straight shot across a field.

The proposed project, however, won't prove to be problem free.

"This is going to be a difficult project," Giard said. "This is a different project to build because of the close proximity of people on sides on some portions of the road."

According to Giard, it will be next to impossible for MDT to make the proposed improvements to the road without having to purchase right of way from area residents — a move that would extend MDT right-of-way into existing yards, in some cases.

The department also is exploring an option of putting in curbs and gutters along portions of the road to cut down on the amount of right of way necessary for the project, he said.

A series of public meetings will be scheduled to discuss the implications of the project and to take public comment regarding the plan. Construction likely would be conducted in two phases.

"We're pretty open right now where we want to go with it," Giard said. "The public could say, 'Leave it like it is.' But I think they'll tell us the same thing as they did with the current project — 'Build it once and make it right.' "

Lewis and Clark County Commissioner Mike Murray said MDOT has the commission's full support.

"Since the county lacked the road dollars, this is probably the only way this road will ever be rebuilt," he said. "The state is doing the county a great service by improving Canyon Ferry Road."

August, on average, is Helena's third-wettest month. Only May and June are wetter. Over the past 10 years, our August rainfall has averaged 1.16 inches, and the month has brought as much as 4.23 inches.

Helena Records

High: 100° in 1966
Low: 40° in 1937

MoonPhase

98% full
Waxing

[illegible] tered thunderstorms developed ac[illegible] during the afternoon.

Early in the day, thunderstorms [illegible] gusty wind stretched across Nebr[illegible] tions of Iowa and South Dakota ac[illegible] Superior.

By afternoon, the line of stormy [illegible] northeastward, extending from so[illegible] across the northern half of Wiscon[illegible] Upper Peninsula.

More than an inch of rain was re[illegible] Minn.; Eau Claire and Rice Lake, W[illegible]

The rain was expected to move i[illegible] of Illinois and Indiana during the n[illegible]

Wednesday's temperatures arou[illegible] ranged from a morning low of 30 a[illegible] Park, Wyo., to a midday reading of

LotteryNumbers

Powerball: 24-25-26-34-39, Powe[illegible]
Monana Cash: 2-8-19-33-34
Wild Card:7-8-15-18-30, King of [illegible]

Corrections

If you see something incorrect in the Independe[illegible] please call the city desk at 447-4071. Written r[illegible] sent to Corrections, P.O. Box 4249, Helena, MT

Shodair: 'I am positive that it didn

continued from 1A

Braun's duties were much different when he first arrived about a year ago.

"We kept being told he's not a doctor and wouldn't be using his name as a doctor, but then we find him acting exactly in a therapeutic manner," she said. "He had direct therapeutic contact and ran therapy groups."

Russell Clark, a former child-care worker in the children's unit, said Braun gave staff direction on handling disruptive patients when a staff psychiatrist wasn't available.

"That put him in a position of responsibility for direct patient care," he said. "There was a lot of patient contact in that position. He had occasions to talk with patients."

Another former employee in the children's unit, who spoke on condition of anonymity, said Braun had closed-door sessions with patients.

"He interviewed patients to determine what was going on with them and how their day was going," he said. "He should never have been allowed on the unit."

Jack Casey, hospital administrator, said Braun has never had personal contact with patients or played a role in diagnosis or treatment in any of the three positions he has held at Shodair.

"There's no way he was doing any type of treatment," Casey said. "I am positive that didn't occur. Our physicians wouldn't have stood for it. They would have been in here just screaming."

Casey said claims otherwise are lies by unhappy former employees.

"Anytime you're dealing with employees and they become disgruntled, they make all sorts of allegations," he said.

Howard Brinton, Braun's attorney, declined to comment, saying only that the former employees "are not reliable."

Braun's professional problems arose from his treatment of a woman and her two young children over a six-year period beginning in 1986. The dispute centered around treatment of multiple-personality disorders using repressed memory therapy.

Braun, 59, was sued by the woman, who was diagnosed as having multiple personality disorder. She claimed Braun used drugs and hypnosis to convince her she had 300 personalities, ate meatloaf made of human flesh and was a high priestess in a satanic cult.

The lawsuit eventually was settled for $10.7 million, but Braun never admitted any of the allegations against him.

Two years later, the Illinois Department of Professional Regulation filed a nine-count complaint against Braun. He agreed to a two-year suspension of his medical license and five years probation. The suspension ends Oct. 7.

The former Shodair employees interviewed by the AP insisted Casey is wrong in

MPC: Touch America spinoff, split coming

continued from 1A

Gannon said he's confident the deal will win approval.

"There is a willingness, despite what is being portrayed in the media, to get this resolved," Gannon said. "We want it by year's end. Moving forward means getting the deal done. That does not suggest it's a fall-out-of-bed scenario. We're going to get it done."

Asked Bellessa: "What if you don't get it done or the terms are unfavorable."

Regarding the NorthWestern sale, Gannon told how the separation of Touch America from Montana Power "is important for the future for Touch America so we will continue to examine whatever alternatives we might have to successfully separate Touch America from the Montana Power Co." NorthWestern is buying Montana Power's gas and electricity distribution and transmission business and will keep the MPC name.

Touch America, now part of MPC, will emerge as its own business, while Montana Power will continue to be an electricity and natural gas transmission and distribution company.

Gannon said Montana Power has no plan in place other than options it had considered earlier — spinning off Touch America, splitting off Touch America or having an initial price offering (IPO).

"We firmly believe the avenue of separation is the better avenue for our shareholders, for our employees and for the state of Montana, but it's not the only way," Gannon said.

Gannon was asked by another analyst about the 2002 proposed referendum to strike down House Bill 474, a controversial law passed by the 2001 Legislature that, among other things, guarantees Montana Power Co. full-cost recovery of any power supply purchase costs.

Gannon said although the referendum had been in the news, ballot issues are common in Montana, and any possible vote on the HB474 referendum was a long time away. At least three other ballot measures have been proposed.

"While there are some people who think it's a good idea (to approve it), there are a lot of people who think it would be goofy," Gannon said, adding little doubt that he lined up with those with the latter view.

"This (referendum) has tremendous detrimental consequences," he said.

But he told the analysts that corporations have the ability to spend money taking positions on ballot measures. Montana Power, Gannon said, will be "helping educate the people of Montana."

Gannon emphasized that Montana Power won't be put into a "California situation" where it is forced to buy power for high prices and sell it to customers for low prices.

"We have stated emphatically, and we continue to say emphatically that we are not going to be put in that position," he said.

Stock: Glut optics has

continued from 1A

enues for its telecommunications business called Touch America would rise 10 percent this year, instead of the 25 percent earlier forecast.

Touch America still remains the only profitable fiber optic-network.

Shared troubles

The telecommunications sector MPC decided to focus on has taken a serious hit over the past year. Stock prices have plunged 80 to 90 percent for previously hot stocks like Nortel Networks Corp. and Cisco Systems Inc.

Some companies are writing off unprofitable parts of their business and devaluing their assets.

MPC said it, too, was getting out of [illegible] more profitable data communications.

The corporation also is cutting the number of salespeople it is hiring and waiting for paying customers to activate unused portions of its 22,000-mile fiber optics network.

The company was expected to earn revenues of $679 million this year. That estimate has dropped to $589 million.

A glut of fiber

According to news reports, only 2.5 percent of all the fiber-optic networks already constructed around the country are being used. That oversupply has led to sharp price drops.

Touch America saw prices drop 25 percent for some

Public Meeting

Hear

The Montana Department of Transportation, Lewis and Clark County and Robert Peccia and Associates invite you to a pubic meeting to discuss and comment on the identified alternatives for the proposed reconstruction of Montana Secondary Highway 430, Canyon Ferry Road. The proposed reconstruction is from the Water Treatment Plant east to the intersection with Spokane Creek Road. The Spokane Creek Road intersection will also be addressed.

Be Heard

We invite you to voice your comments on the alternatives. For more information or to arrange special accommodations for disabilities **call 494-9600 or 1-800-261-6909.**

Monday, June 3, 2002
Open House:
4:00 P.M. to 6:00 P.M.
and
Presentation/Question & Answer
7:00 P.M. to 9:00 P.M.
R.H. Radley Elementary School Gymnasium
226 East Clinton
East Helena, Montana

HELENA INDEPENDENT RECORD
5/29/02

TO RUN AGAIN 6/2/02

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-748-5847

or 410-1348.

lot on Cedar St. in Helena

Public Meeting

Hear

The Montana Department of Transportation, Lewis and Clark County and Robert Peccia and Associates invite you to a public scoping meeting to discuss and determine the issues for the proposed reconstruction of Montana Secondary Highway 430, Canyon Ferry Road. The proposed reconstruction is from the Water Treatment Plant east to the intersection of Spokane Creek Road. Reconfiguration of the Canyon Ferry Road/Spokane Creek Road intersection will be considered in this project.

Be Heard

We invite you to voice your comments and concerns about the project. For more information or to arrange special accommodations for disabilities call 494-9600 or 1-800-335-7592.

Wednesday, November 14, 2001
Open House:
4:00 P.M. to 6:00 P.M.
and
Presentation/Question & Answer
7:00 P.M. to 9:00 P.M.
R.H. Radley Elementary School Gymnasium
226 East Clinton
East Helena, Montana

MDT
serving you with pride

Project Newsletter - Issue No. 1: October 2001

Canyon Ferry Road

Road Reconstruction Project

HIGHWAY S-430 MDT PROJECT STPS 430-1(5)1

In This Issue:

You Are Invited To A Public Meeting

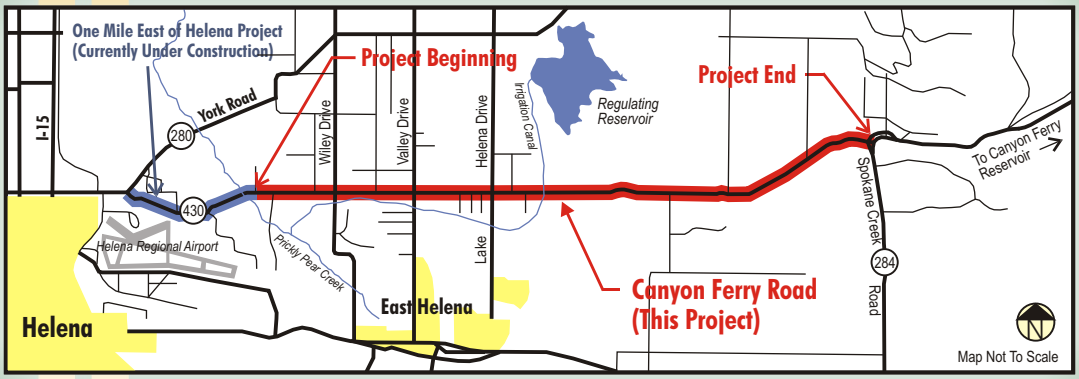
DATE: November 14, 2001
WHERE: R.H. Radley School In East Helena
WHEN: 7:00 pm
See Inside for More Information

Prepared By:
Robert Peccia & Associates
Highways Division

Introduction

The Montana Department of Transportation (MDT), in cooperation with Lewis and Clark County, has begun planning for the reconstruction of a major portion of Highway 430 (better known as Canyon Ferry Road). The section of road to be examined begins near the City of Helena Water Treatment Plant and continues east for more than 8 miles to the intersection of Highway 284 (Spokane Creek Road). The existing intersection of Canyon Ferry Road and Spokane Creek Road, near the Glass Slipper, would also be modified and rebuilt with this project. This project will tie into the One Mile East of Helena project currently under construction by MDT.

Project Location Map



Why Rebuild Canyon Ferry Road?

Canyon Ferry Road needs to be reconstructed due to the safety concerns associated with the present roadway, its deteriorated condition, the continuing traffic increase, and to be more compatible with the type of development that has and will likely occur along the route. The existing highway dates to the 1970s when a 24-foot-wide paved surface was installed over the old gravel road. Other than asphalt overlays and patches and the addition of minor safety features, no major improvements have been done to Canyon Ferry Road since it was paved.

continued on next page

continued from previous page

Applying asphalt overlays provides a temporarily smooth driving surface but does not correct the road's basic design problems. The lack of shoulders and turning lanes, steep roadside slopes, and poor sight distance due to sharp curves and hill-crests are key design deficiencies that must be corrected. Additionally, the present road lacks facilities for pedestrians and bicyclists to safely travel within the project corridor.

Who's Involved With The Project?

Canyon Ferry Road was nominated for reconstruction by Lewis and Clark County. Therefore, MDT will work closely with the County Commissioners and other staff over the duration of this project. MDT will administer the design and construction of the highway improvements. Once the project is built, MDT would also maintain the road.

Robert Peccia and Associates (RPA), a consulting engineering firm from Helena, has been hired by MDT to complete design activities and develop the required environmental document. RPA will coordinate the project with other interested agencies including: the U.S. Army Corps of Engineers, the U.S. Fish & Wildlife Service, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana Department of Fish, Wildlife and Parks, and the Helena Valley Irrigation District.

Public input will also be asked for and used to guide the development of the Canyon Ferry Road improvements. Meetings and presentations will be held to help MDT, the County, and RPA understand issues important to local residents, business owners, highway users, and interested persons. This information will determine the scope of analysis for the project's environmental document, and will help guide the project's development. Periodic reviews of completed work will allow the public and involved agencies to help refine the design for Canyon Ferry Road.

What's the Current Status of the Project?

The project is just beginning. In recent months, you may have seen land surveyors, utility locators, and crews doing soil boring along Canyon Ferry Road. These workers are in the process of documenting current conditions and developing detailed mapping of existing features needed for future design activities. Environmental specialists have already completed field work to help assess potential effects on wetlands, biological and cultural resources, and noise levels.

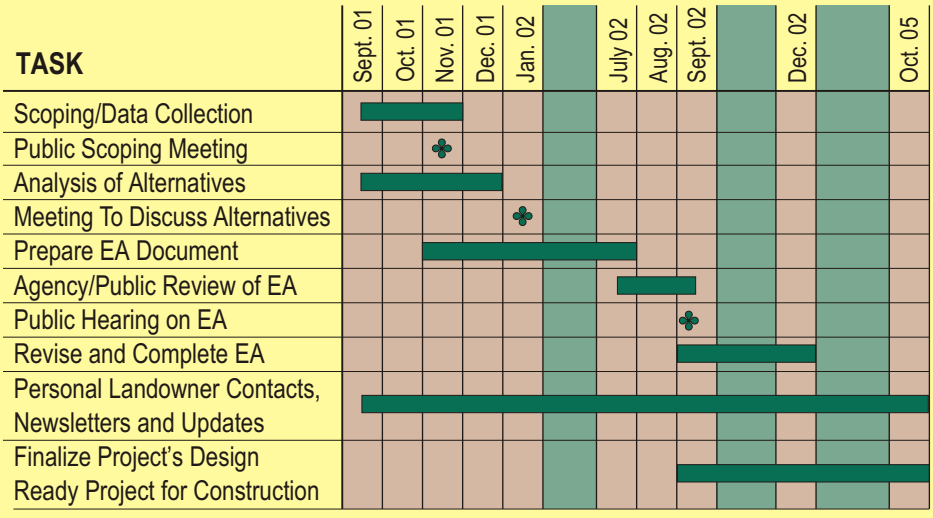
RPA is also just beginning work on an Environmental Assessment (EA). The EA must be prepared to comply with the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA). These Acts require federal and state agencies to consider reasonable alternatives and assess the possible impacts of their actions on the environment. The Canyon Ferry Road EA should be fully completed before the end of 2002.

What Might the "New" Canyon Ferry Road Look Like?

The proposed improvements to Canyon Ferry Road will address the present road's design deficiencies. However, the specific elements that will make up the design for the new road have not yet been established. The highway engineers and planners working on the project are considering a variety of design features including:

- **4' to 8' foot-wide Paved Shoulders.** The width of the shoulder to be provided depends greatly on traffic volumes and developments adjacent to the highway. Wider shoulders are preferable in the more developed area between the beginning of the project and Lake Helena Drive.
- **Turning Lanes.** Additional turn lanes may be appropriate at some intersections with high numbers of turning vehicles. A continuous center Two-Way-Left-Turn Lane (TWLTL) may be desirable in more densely developed areas with many closely spaced approaches.
- **Traffic Signals.** Studies will be completed to determine if major intersections like Wylie Drive and Valley Drive warrant the installation of traffic signals.

Anticipated Schedule



- **Curb and Gutter.** It may be desirable to include curb and gutter along the edge of the new road to contain its width and control storm drainage through developed areas of the corridor. Curb and gutter may be beneficial in reducing right-of-way needs by eliminating the need for roadside ditches. It could also lessen impacts on adjoining properties and minimize the need for utility relocations.

- **Pedestrian and Bicycle Facilities.** The design for the new road may also include sidewalks for pedestrians, widened shoulders for bicyclists, or a multi-use path.

- **Limited Access Control.** Controlling access points to the road would help alleviate traffic conflicts and provide for more uniform traffic flows. Access control may involve adjusting approach locations for safer alignments, eliminating unnecessary approaches, and combining multiple approaches.

These preliminary design features will be discussed at the first public meeting. We would like your comments on these design features or other design ideas you feel should be examined during the development of this project.

Will New Right-of-Way Be Required?

Key design considerations for this project (particularly in the more densely developed part of the corridor) are to minimize additional right-of-way acquisition and utility relocations. Over much of the project area, the current right-of-way is only 60 feet wide and underground and overhead utilities exist next to the road. New right-of-way will likely be needed in developed areas if the road is widened to include paved shoulders, turn lanes and other provisions.

East of Lake Helena Drive, the new road would likely be a "rural" design with flatter roadside slopes and ditches along the highway. Sharp curves on Canyon Ferry Road would also be eliminated in this area and the location of the road may change slightly. The intersection at Canyon Ferry Road with Spokane Creek Road also needs modifications. These changes would require substantially more or entirely new right-of-way. Right-of-way needs won't be known until we hear your input, and roadway design features and its future alignment are set.

When Would Canyon Ferry Road be Rebuilt?

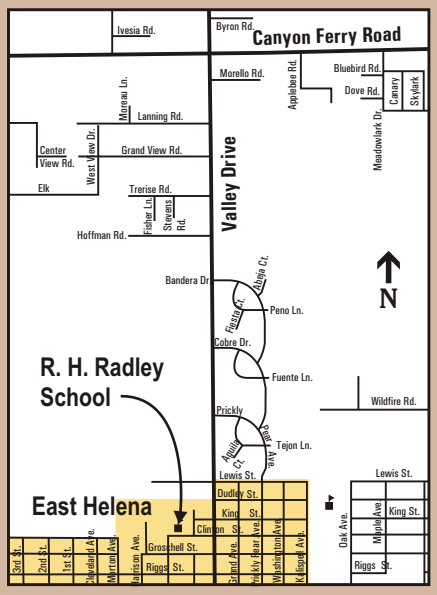
Current expectations are to have any necessary right-of-way acquired, and construction plans ready in late 2005. Actual construction would probably not start until 2006. However, this date is dependent on the scope of the project and the availability of funds. Funding projections show the project may have to be built in two phases. The first phase would rebuild the road from the Water Treatment Plant to or slightly beyond Lake Helena Drive. A second phase would reconstruct the road east of Lake Helena Drive probably sometime after 2006.

We Need Your Help!

What is your vision for Canyon Ferry Road? How would you like to see the road improved? How would improving the road benefit or harm our community? What should the new road look like? What issues along the Canyon Ferry Road and connecting roads concern you? Your answers to these types of questions will help us identify the most appropriate design and associated improvements to this important travel corridor.

We can best understand your points of view if you choose to actively participate in the development of this project. We're providing several ways for you to participate in the development of the project and offer your comments.

The most obvious way is to attend one of several public meetings that will be held. **Our first public meeting will be held on November 14, 2001** at the R.H. Radley elementary school gymnasium in East Helena. An informal open house is scheduled for 4-6:00 p.m. A presentation will be held at 7:00 p.m. followed by a question and answer session. Staff of MDT, RPA and Lewis and Clark County will be on hand to discuss the project's current status, to listen to your concerns and suggestions, and to answer questions.



For further information or to be placed on the mailing list, please contact:

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Robert Peccia and Associates
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Helena, MT 59604
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FAX: (406) 447-5036
tom@rpa-hln.com

Jason Giard, P.E.
Administrator, Butte District
Montana Department of Transportation
3751 Wynne
P.O. Box 3068
Butte, MT 59702-3068
(406) 494-9600 or
1-800-261-6909
FAX: (406) 494-4396

Other opportunities available for you to become involved with this project are discussed below.

- RPA staff may be contacted at any point in the process and are available to meet informally with you to answer questions about the project.
- Project information will be posted on RPA's website (www.rpa-hln.com).
- Other project newsletters will be distributed at key points in the process.
- The EA will be circulated for review and comment.
- A public hearing will be held after the EA is distributed for comment.
- One-on-one contacts will be held with property owners along the highway to discuss right-of-way and access management issues.

You Are Invited To A Public Meeting

DATE: November 14, 2001
WHERE: R.H. Radley School In East Helena
WHEN: 7:00 pm
See Inside for More Information

Robert Peccia & Associates
P.O. Box 5653
Helena, Montana 59604

Project Newsletter - Issue No. 2: March 2002

Canyon Ferry Road

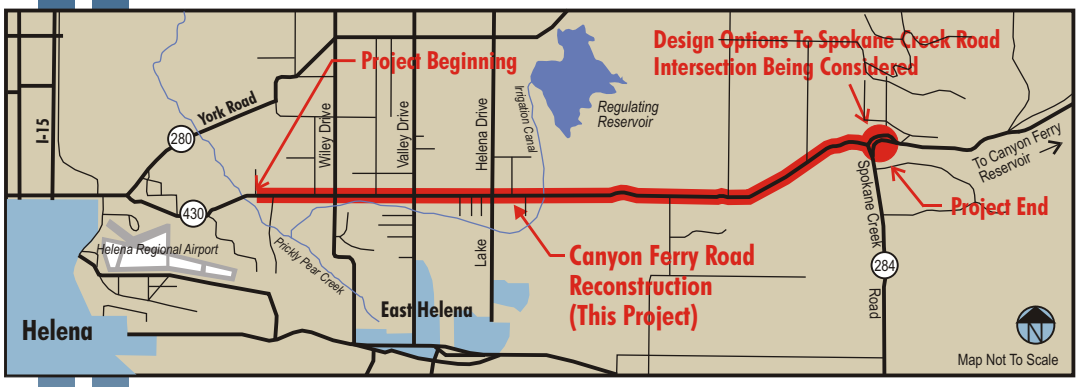
Road Reconstruction Project

HIGHWAY S-430 MDT PROJECT STPS 430-1(5)1

In This Issue:

We're working towards the next public meeting, we'll keep you posted!

Project Location Map

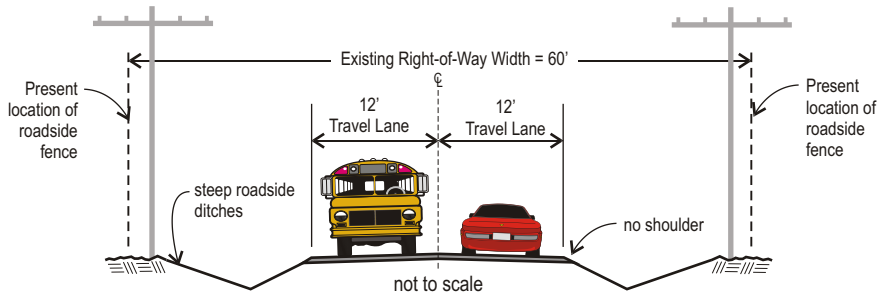


The First Project Meeting Was Held

We held our first public informational meeting on November 14, 2001. Our afternoon and evening sessions were attended by sixty people and we received some great information and ideas from those who attended. Meeting sessions allowed us to present conceptual ideas for this project and hear the issues important to you and key to the success of this project.

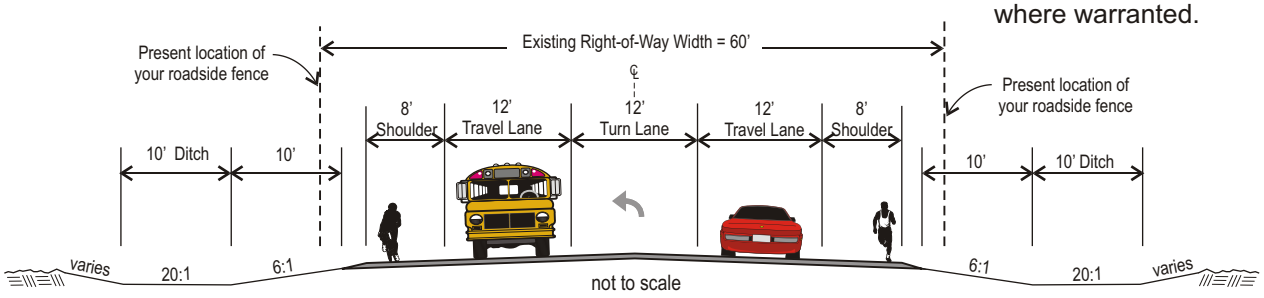
Displays at the meeting presented design features that might be included with this project. Some of these are shown on the following page along with a drawing of what the road looks like today for comparison.

The Existing Road Looks Like This



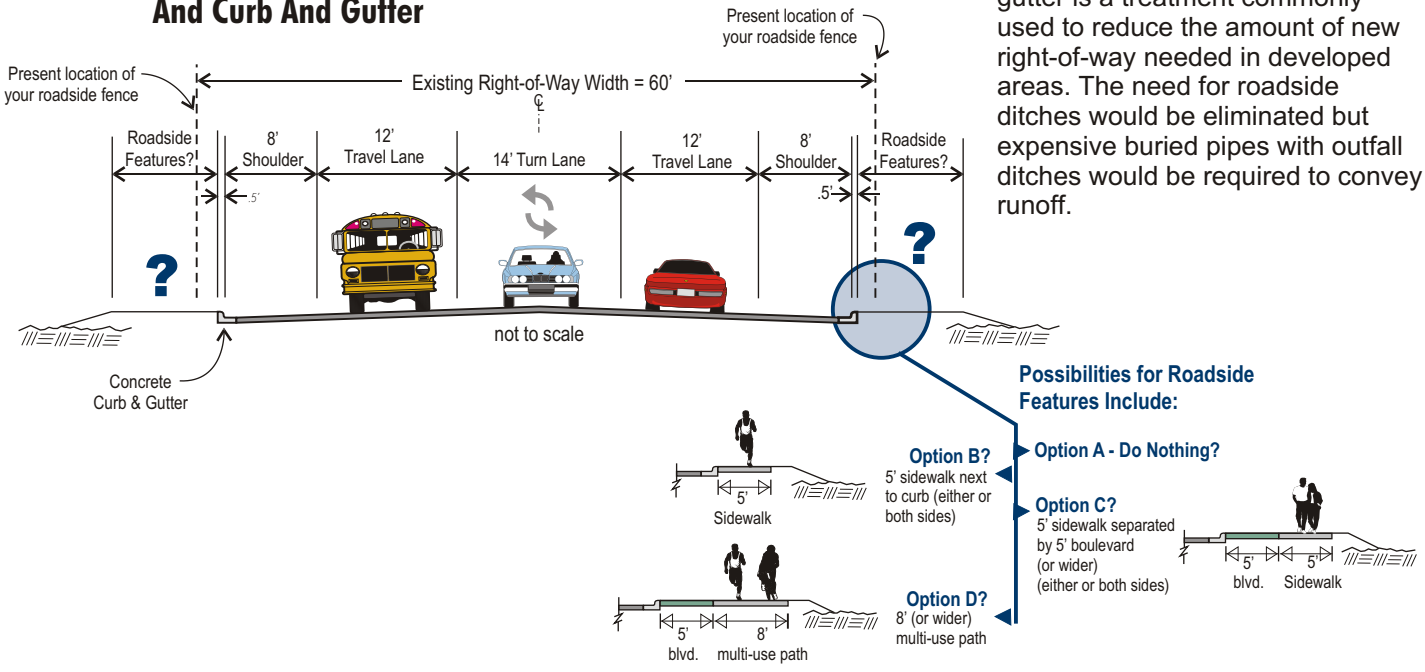
The existing highway lacks turn lanes. The addition of turn lanes would provide a safe area for turning vehicles. Steep roadside slopes and no shoulders present hazardous conditions for motorists who leave the roadway.

A Conceptual Design Being Considered For Rural Area: Possible Three-Lane Highway with Dedicated Turn Lanes



This conceptual road section is being considered in the rural areas and areas of less roadside development. This section would provide widened shoulders, flatter roadside ditches and turn lanes where warranted.

A Conceptual Design Being Considered For Developed Area: Possible Three-Lane Highway (With Turn Lane) And Curb And Gutter



This conceptual road design would include curb and gutter. Curb and gutter is a treatment commonly used to reduce the amount of new right-of-way needed in developed areas. The need for roadside ditches would be eliminated but expensive buried pipes with outfall ditches would be required to convey runoff.

What You've Told Us

To date, we've received over 100 comments by phone, letter, e-mail, and feedback about project issues from our first project meeting.

Based on what we've heard, the issues or design considerations most important to this project are:

- The current **Travel Speed** is too high for the amount and type of development between Wylie and Lake Helena Drives. Motorists should be encouraged to drive slower by including traffic calming measures.
- The need for safe **Bicycle** travel must be addressed.
- The existing highway is dangerous for pedestrians. **Sidewalks or Paths** should be included in the area between Wylie and Lake Helena Drives.
- Your **landscaping is important**. It is not necessarily a question of cost to replace, but the time to develop mature landscaping in this climate.
- **Curb and Gutter** is favored to reduce the overall construction width in the developed area between Wylie and Lake Helena Drives.
- Consider improving safety for **Mail** delivery and retrieval. Sidewalks would allow residents to safely approach their mailbox and widened shoulders would allow for safer mail delivery. Relocating mailboxes into clusters at turnouts or pullouts away from traffic would also enhance safety.
- The addition of **Turn Lanes** at major intersections and conflicting access points are a good idea.
- Improving major intersections by installing **Signals** or constructing modern **Roundabouts** should be examined.
- If project funding is limited, make the first priority the reconstruction of the **Spokane Creek Road intersection** and the segment between Wylie and Lake Helena Drives.
- Improvements to the **Spokane Creek Road intersection** will not be easy due to the level of existing development, multiple access points, and rolling terrain. There is no suitable "quick fix" to solve the problems.

What We've Been Doing

We're moving forward with the project's design. We've completed detailed traffic analyses throughout the project. This will help us identify locations for turn lanes and other traffic improvements. Mapping and surveying required for our future design plans have been done. Fieldwork to identify cultural resources, wetlands and other biological resources has been finished. This work is necessary for our environmental assessment and preliminary design activities. This information, along with your comments will be considered as we develop and analyze various design options.

Working Towards Another Meeting

We're working towards holding a meeting in April to receive your input on the design ideas being considered. However, our progress on laying out the options for the corridor will dictate when we've reached the appropriate point to present this material to you. We'll present new displays showing greater detail of the treatments being considered, and how the proposed reconstruction may affect you. We'll inform you of the meeting's time, date and location by another newsletter. Advertisements of the meeting will also be published in the Helena Independent Record. We look forward to seeing you there!

Look For A Newsletter on Access Management

Another newsletter is in the works. It will discuss how this project will implement **Access Management** to help deal with problems of traffic congestion and accidents. The goals of access management are to make the road safer, function more efficiently, and provide a highway system that better serves local and commuter traffic.

Access management along Canyon Ferry Road may affect your access by:

- combining approaches where possible,
- eliminating unused and/or unnecessary approaches,
- moving adjacent property approaches to connect with other roads,
- considering right turn in and right turn out only on some approaches, and
- limiting construction of new approaches.

To Contact Us

If you know of a neighbor or friend who is also interested in the Canyon Ferry Road Reconstruction Project, please have them contact us to be put on the mailing list. In addition, project newsletters can be viewed at the Consultant's website of www.rpa-hln.com Feel free to contact us with questions by:

- Sending us a letter;
- Calling either the Consultant or Montana Department of Transportation's Project Manager;
- E-mail or;
- FAX

Your comments are welcomed at any time!

Contact the consultant's project manager, or the Department of Transportation's project manager at:

Tom Cavanaugh, P.E.
Consultant Project Manager
Robert Peccia and Associates
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825 Custer Avenue
Helena, MT 59604
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FAX: (406) 447-5036
tom@rpa-hln.com

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We're working towards the next public meeting, we'll keep you posted!

This newsletter was prepared by Robert Peccia and Associates, consulting engineers contracted by the Montana Department of Transportation for the design of this highway project, and development of its environmental document.

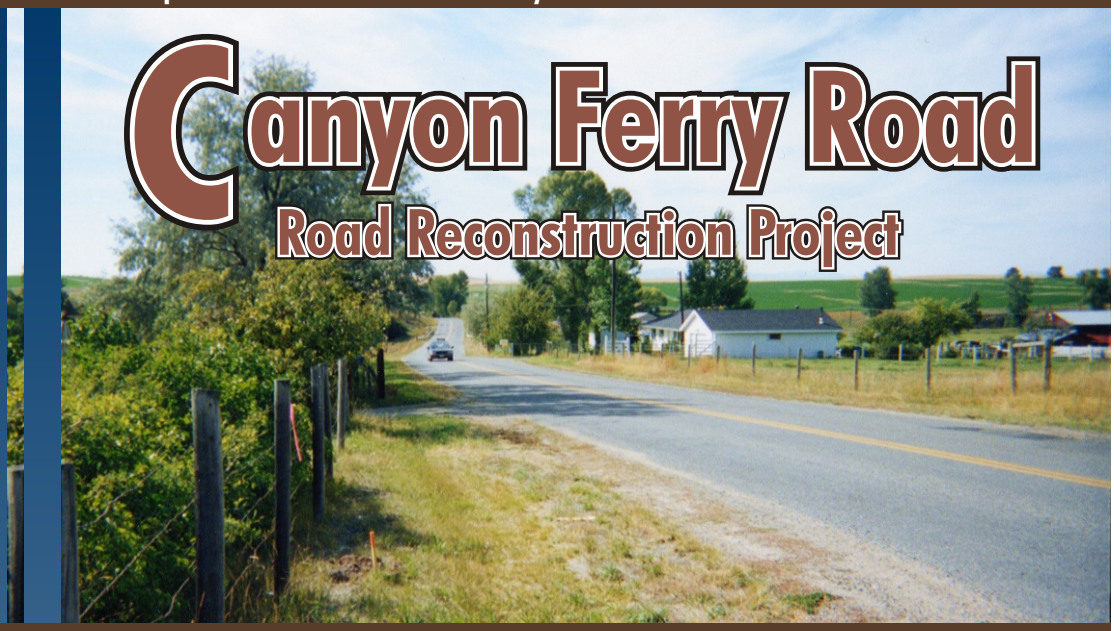
Canyon Ferry Road Reconstruction Project - Project Newsletter - Issue No. 2: March 2002

Robert Peccia & Associates
P.O. Box 5653
Helena, Montana 59604

Project Newsletter - Issue No. 3: May 2002

Canyon Ferry Road

Road Reconstruction Project



HIGHWAY S-430 MDT PROJECT STPS 430-1(5)1

In This Issue:

The Next Public Meeting

Please join us at the next public meeting! This meeting will be to discuss the identified alternatives, and which alternatives are being considered as the recommended treatments.

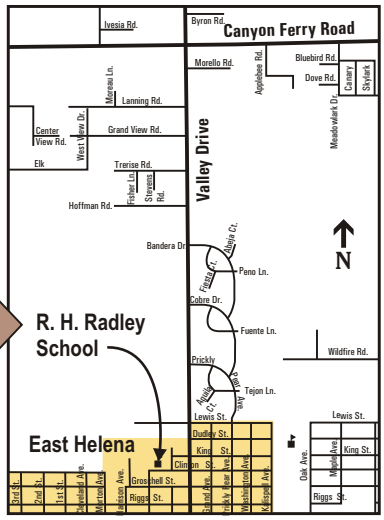
Meeting Date: **Monday June 3, 2002**

Where:

R.H. Radley Elementary School
226 East Clinton
East Helena, MT

When:

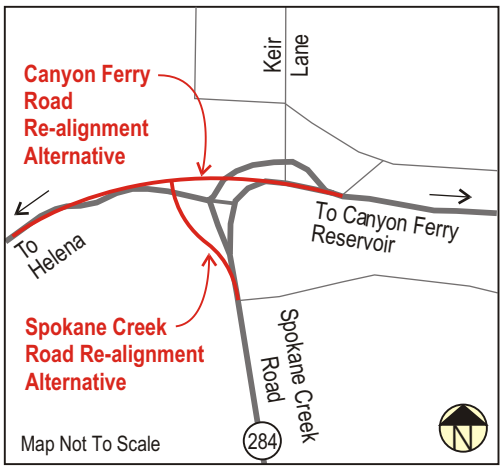
4-6:00 pm Open-House
7-9:00 pm Presentation and Discussion



Alternatives Have Been Identified

Your comments throughout the project's scoping process have helped the project design team identify and evaluate the alternatives. The alternatives have been studied and narrowed to a set of recommended treatments.

The figure at the right shows one such alternative of a generalized schematic for the recommended reconstruction of the intersection area of Canyon Ferry Road and Spokane Creek Road.



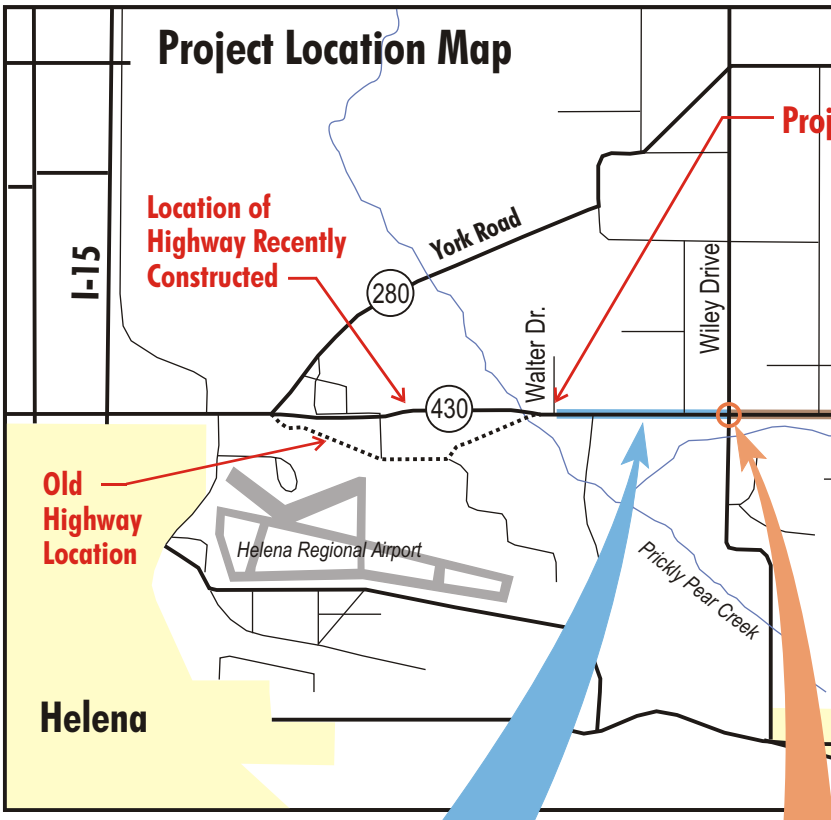
This reconfiguration would allow the predominant traffic on Canyon Ferry Road to travel non-stop. Spokane Creek road would then be re-aligned to "T" into Canyon Ferry Road west of it's present location. Spokane Creek Road would become stop-controlled.

See the inside of this newsletter for additional information on the preferred alternatives for reconstructing Canyon Ferry Road.

Please join us at the next public meeting to give the design team additional input and comments to help us refine the recommended treatments.

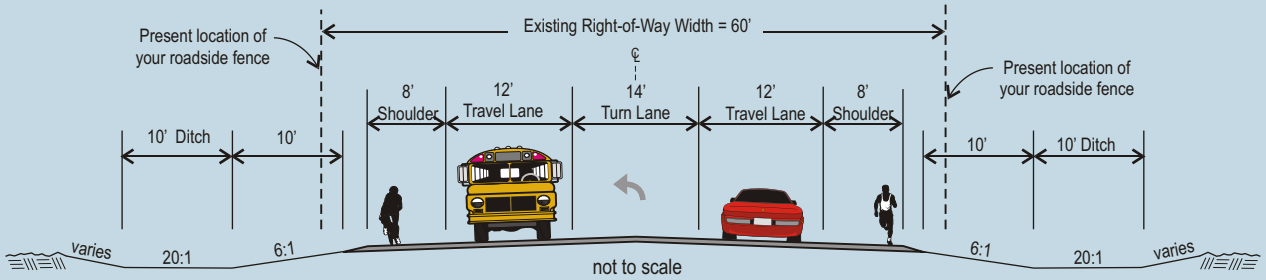
What is Being Considered For The Reconstruction of Canyon Ferry Road?

Canyon Ferry Road is a unique highway, made up of connected, yet different segments. The highway passes through both urban-like and rural settings which may require different treatments to address the current highway's problems.



Beginning Of Project to Wylie Drive

The beginning of the project at Walter Drive will tie into the new segment recently completed. The new highway's top paved width at that location will match with what was just constructed, consisting of two 12-foot travel lanes and two 8-foot shoulders. From that point east, Canyon Ferry Road will likely be widened to accommodate a 14-foot center left turn lane, or a center Two Way Left Turn Lane (TWLTL). The center turn lane will aid motorists to safely turn onto such approaches as Tizer Road or Baldy Drive. The 8-foot shoulders will accommodate the occasional bicyclist or pedestrian, and provide a safety area for an occasional broke-down vehicle.



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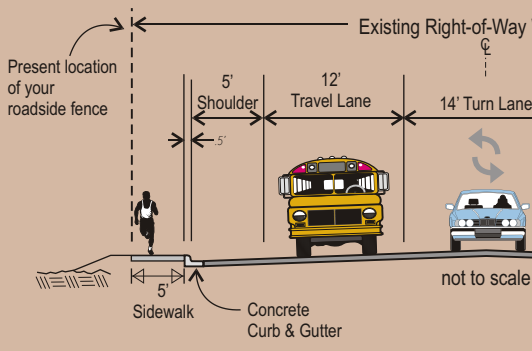
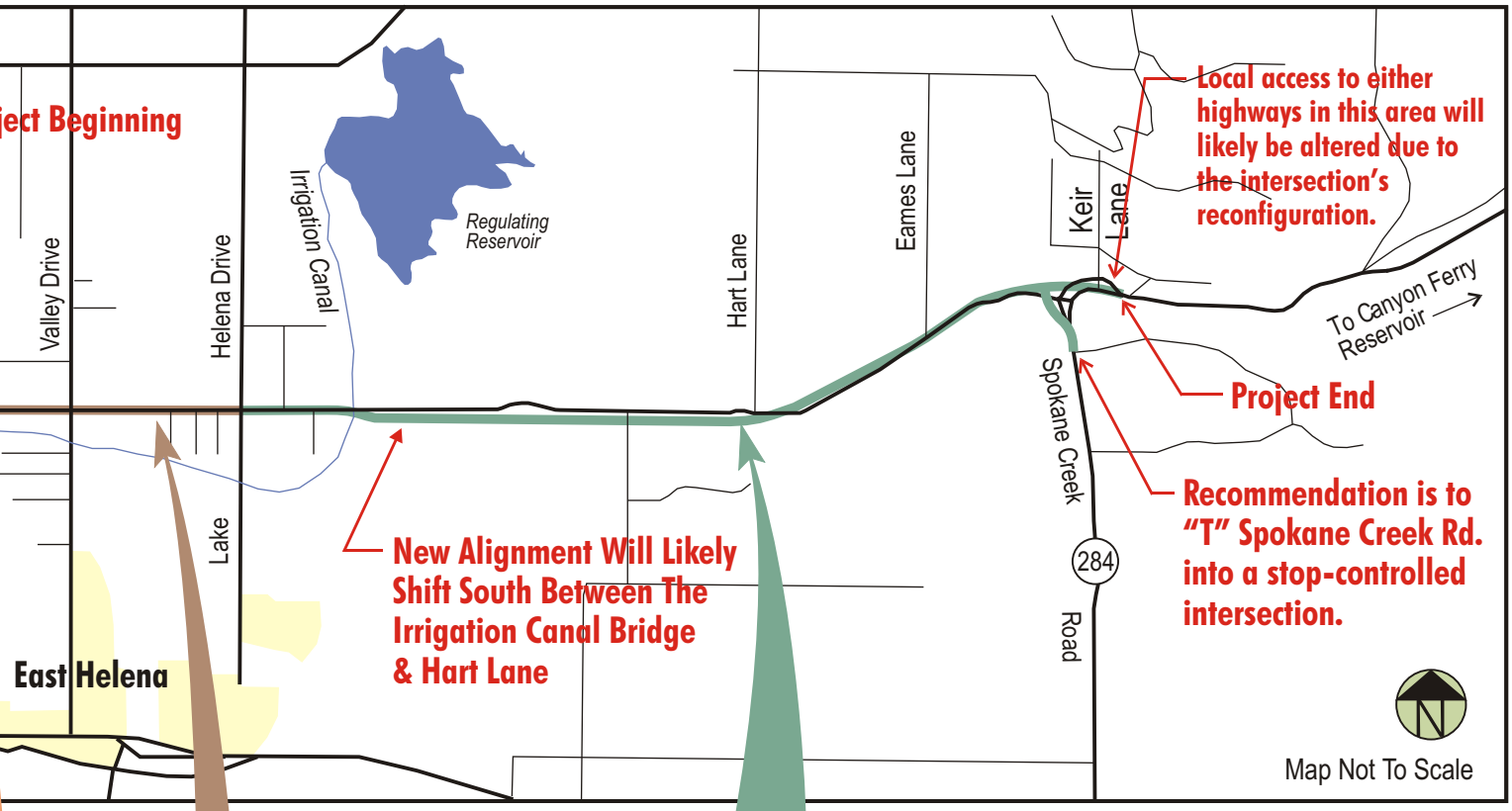
Wylie Drive to Lake Helena Drive

People have commented during this project's scoping process that the greatest concern in this developed area is to minimize the new highway's width and additional right-of-way needs. Additional right-of-way will be required, but the goal is to minimize by recommending reconstruction to be the least width while maintaining desired safety improvements (turn lanes) and roadside amenities (sidewalk). In order to achieve the many needs, concrete curb and gutter will likely be built in this segment to contain the width of the new road. In addition, the present consideration is to reduce the previously recommended 8-foot shoulder to 5-foot. A center TWLTL is highly recommended in this segment to allow motorists to safely turn into their driveways or onto major approach roads like Valley Drive or Lake Helena Drive.





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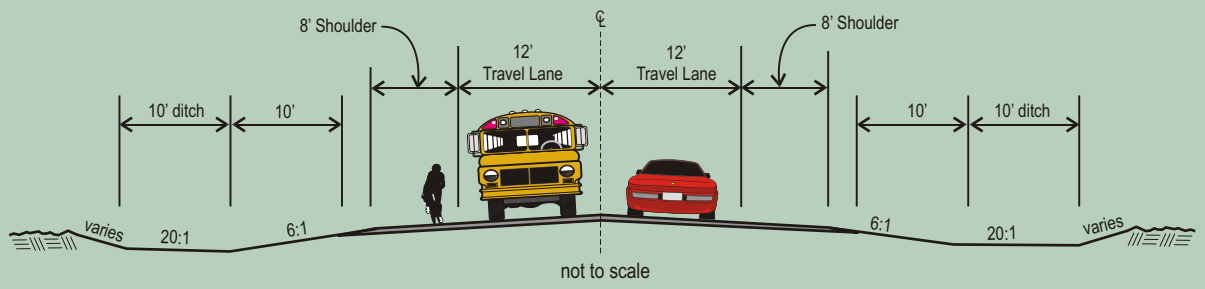

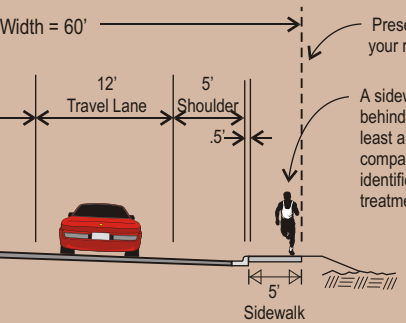

Lake Helena Drive to Spokane Creek Road

East of Lake Helena Drive, beyond the canal bridge, the new highway centerline will likely be shifted slightly south of its present location. The preference is to minimize impacts and additional right-of-way acquisition from the more numerous and developed properties north of the highway. Shifting the alignment south of its present location also will allow the new highway to be built within this area while maintaining traffic on the existing until construction is complete. This would reduce the cross-overs and motorist delays during construction. East of Hart Lane, the new alignment will likely be shifted slightly north of, or near its present location until approaching Spokane Creek Road. The intersection area at Spokane Creek Road will likely undergo a major reconfiguration similar to what is shown on the front page of this newsletter.

To Contact Us

If you know of a neighbor or friend who is also interested in the Canyon Ferry Road Reconstruction Project, please have them contact us to be put on the mailing list. In addition, project newsletters can be viewed at the Consultant's website of www.rpa-hln.com Feel free to contact us with questions by:

- Sending us a letter;
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- FAX

Your comments are welcomed at any time!

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The Next Public Meeting

Please join us at the next public meeting! This meeting will be to discuss the alternatives identified, and the preferred treatments to reconstruct Canyon Ferry Road and the Spokane Creek Road intersection.

Meeting Date: Monday June 3, 2002

Where:
R.H. Radley Elementary School
226 East Clinton
East Helena, MT

When:
4-6:00 pm Open-House
7:00 Presentation
Until 9:00 Open For Questions and Discussion.

Canyon Ferry Road Reconstruction Project - Project Newsletter - Issue No. 3: May 2002

Join us at the next public meeting! See inside for details.

Robert Peccia & Associates
P.O. Box 5653
Helena, Montana 59604

Appendix D: "Nationwide" Section 4(f) Evaluation Form and Attachments

MONTANA DIVISION

"NATIONWIDE" *SECTION 4(f)* EVALUATION FOR MINOR IMPACTS ON HISTORIC SITES

EXCLUDING HISTORIC BRIDGE REPLACEMENTS

Project # **STPS 430-1 (5) 1, (P.M.S. C.N.#4440)** Date: **May 5, 2003**

Project Name: **CANYON FERRY ROAD** Location: **Project Area Irrigation Ditches 24LC1691 - 24LC1698 Lewis and Clark County, Montana**

Eight historic irrigation ditches or systems were recorded within the Canyon Ferry Road project during October 2001. These ditches were identified and recorded as sites 24LC1691 (unnamed ditch); 24LC1692 (Company Slough Ditch); 24LC1693 (Prickly Pear Ditch); 24LC1694 (unnamed ditch); 24LC1695 (Merritt-Gross Ditch); 24LC1696 (Stockburger Ditch); 24LC1697 (Peopping Ditch); and 24LC1698 (Smith Ditch). All of the irrigation ditches are small, private conveyances believed to be built approximately fifty years ago. Most are still in operation, although the Poeping, Smith, and one branch of the Stockburger Ditch have been abandoned. A map showing the location of these sites is attached.

MDT's 1993 Amended Programmatic Agreement regarding the treatment of historic irrigation ditches affected by highway construction projects in Montana, eliminates the need to evaluate the NRHP eligibility status for these historic features. A copy of the 1993 Programmatic Agreement is attached.

The proposed project would impact existing irrigation ditch crossings of Canyon Ferry Road and would require the installation of new metal or concrete culverts beneath the road at each location where the new highway will cross the irrigation ditches. For the purposes of the Programmatic Agreement, structures associated with existing roads and built with the reconstructed roadway are considered to be features of the roadway and not of the intersecting irrigation systems.

NOTE: *Any response in a box requires additional information. Consult the "Nationwide" Section 4(f) Evaluation criteria.*

		YES	NO
1.	Is the *4(f)* site adjacent to the existing highway?	X	[ ]
2.	Does the proposed project require the removal or alteration of historic structures, and/or objects?	[ ]	X
3.	Does the proposed project disturb or remove archaeological resources which are important to preserve in-place rather than to recover?	[ ]	X
4.	Is the impact on the *4(f)* site considered minor (i.e.: no effect; or no adverse effect)?	X	[ ]
5.	Has the STATE HISTORIC PRESERVATION OFFICE (SHPO) agreed in writing with the assessment of impacts, and the proposed mitigation? **As specified in the 1993 Amended Programmatic Agreement regarding Historic irrigation ditches affected by highway construction projects in Montana.**	X	[ ]
6.	Is the proposed action under an Environmental Impact Statement (E.I.S.)?	[ ]	X
7.	Is the proposed project on a new location? **The new road will be built following the existing alignment from the project's beginning to RP 4.2. The new road would follow an offset alignment through the rural section of the project corridor. The Canyon Ferry Road/Spokane Creek Road intersection of will be totally reconfigured.**	[X]	___

NOTE: *Any response in a box requires additional information. Consult the "Nationwide" Section 4(f) Evaluation criteria.*

8. The Scope-of-Work for the proposed project is one of the following: [X] [ ]
   a **Improved traffic operation;**
   b) **Safety improvements;**
   c) 3R;
   d) Bridge replacement on essentially the same alignment; or
   e) **Addition of lanes. (Left and right turn lanes)**

ALTERNATIVES CONSIDERED

	YES	NO
1. The "do-nothing" **ALTERNATIVE** has been evaluated, and is not considered to be feasible and prudent. **(SEE Part III of the EA)**	[X]	[ ]
The existing roadway and its bridges have physical deficiencies that contribute to reduced safety for users of Canyon Ferry Road. The road's substandard width, steep roadsides, and presence of obstructions within the clear zone are related to the design of the road and can be corrected only by reconstruction.		
2. An **ALTERNATIVE** has been evaluated on the existing alignment which improves the highway without any *4(f)* impacts, and is also not considered to be feasible and prudent. **(SEE Part III of the EA)**	[X]	[ ]
Rebuilding Canyon Ferry Road on the existing alignment would be possible. However, the identified ditches would still be crossed by the new highway.		
3. An **ALTERNATIVE** on a new location avoiding the *4(f)* site has been evaluated, and is not considered to be feasible and prudent. **(SEE Part III of the EA)**	[X]	[ ]
Shifting the alignment north or south of the existing highway would require crossings of each of these irrigation ditches.		

MINIMIZATION OF HARM

	YES	NO
1. The proposed project includes all possible planning to minimize harm.	[X]	[ ]
2. Measures to minimize harm include the following:	[X]	[ ]
The alignment of the proposed project will typically follow the existing alignment in the vicinity of these irrigation ditches thereby minimizing impacts to these historic features.		

COORDINATION

1. The proposed project has been **COORDINATED** with the following:

a) SHPO **(July 29, 1993 - Programmatic Agreement)** **February 14, 2002 - NRHP Eligibility determinations concurrence** **January 3, 2003 - NRHP Eligibility determinations concurrence**	[X]	[ ]
b) ADVISORY COUNCIL ON HISTORIC PRESERVATION **(August 16, 1993 - Programmatic Agreement)**	[X]	[ ]
c) Property owners **(Public meetings November 2001/June 2002)**	[X]	[ ]
d) Local/State/Federal agencies **(FHWA - July 20, 1993/July 23, 1993 - Programmatic Agreement)** **BOR - May 10, 2002 Helena Valley Irrigation Unit** **BOR - December 19, 2002 Helena Valley Irrigation Unit**	[X]	[ ]

2. One of the preceding had the following comment(s) regarding this proposed project, and/or the mitigation:

Main canals and laterals associated with the BUREAU OF RECLAMATION'S Helena Valley Irrigation Unit (24LC1062) would be impacted by the proposed highway project. MDT's 1993 Amended Programmatic Agreement regarding the treatment of historic irrigation ditches does not cover the BUREAU'S irrigation features. Therefore, a determination of NHRP eligibility is typically required for the Helena Valley Irrigation Unit (24LC1062). However, coordination with the BUREAU OF RECLAMATION indicates the proposed highway project would not impact 24LC1062 in a manner that would make it ineligible for the NRHP. In a letter Dated December 18, 2002, the BUREAU also agreed with the conclusion presented in the November 2002 supplemental cultural resources report that the Helena Valley Irrigation Unit is not NRHP-eligible because of its recent construction.

SUMMARY

The proposed action is preferred because the No Build Alternative does not satisfy the specified purpose and need for improving Secondary Highway 430 east of Helena. The No Build Alternative does not meet the traveling public's needs because it does not address the deficient surface width associated with the road and its bridges and does not eliminate or reduce other identified conditions that contribute to safety and operation problems on the existing roadway. The No Build Alternative does not provide a traffic facility consistent with all MDT design standards for Rural Collectors on Montana's Secondary Highway System.

Rebuilding the road on an alignment similar to that of the existing highway could be accomplished, however, this alternative would not avoid the minor effects to the identified irrigation ditches. Similarly, shifting the alignment of Canyon Ferry Road would also require crossings of these historic ditches. The design and location alternatives considered for this proposed project are described in Part III of the EA. Therefore, no feasible and prudent alternatives exist to avoid the minor effects associated with reconstructing Canyon Ferry Road in the vicinity of as sites 24LC1691 (unnamed ditch); 24LC1692 (Company Slough Ditch); 24LC1693 (Prickly Pear Ditch); 24LC1694 (unnamed ditch); 24LC1695 (Merritt-Gross Ditch); 24LC1696 (Stockburger Ditch); 24LC1697 (Peopping Ditch); and 24LC1698 (Smith Ditch).

Part III of the attached Environmental Assessment describes the alternatives considered by MDT and the analysis used to identify a preferred alternative for this proposed project. The proposed action meets all criteria regarding the required **Alternatives**, **Coordination**, and **Measures to Minimize Harm**. All possible planning to minimize harm to the identified irrigation ditches has been undertaken and will be incorporated in this proposed project. This proposed project therefore complies with the December 23, 1986 Final Nationwide*Section 4(f)* Evaluation by the U.S. DEPARTMENT OF TRANSPORTATION's Federal Highway Administration.

APPROVAL

This document is submitted pursuant to **49 U.S.C. 303** and in accordance with the provisions of **16 U.S.C. 470f**.

Jean A. Riley — Date: 6/6/03

Jean A. Riley, P.E.
Engineering Section Supervisor
MDT Environmental Services

Approved: Dorin Grenfell — Date: 6/9/03

Federal Highway Administration

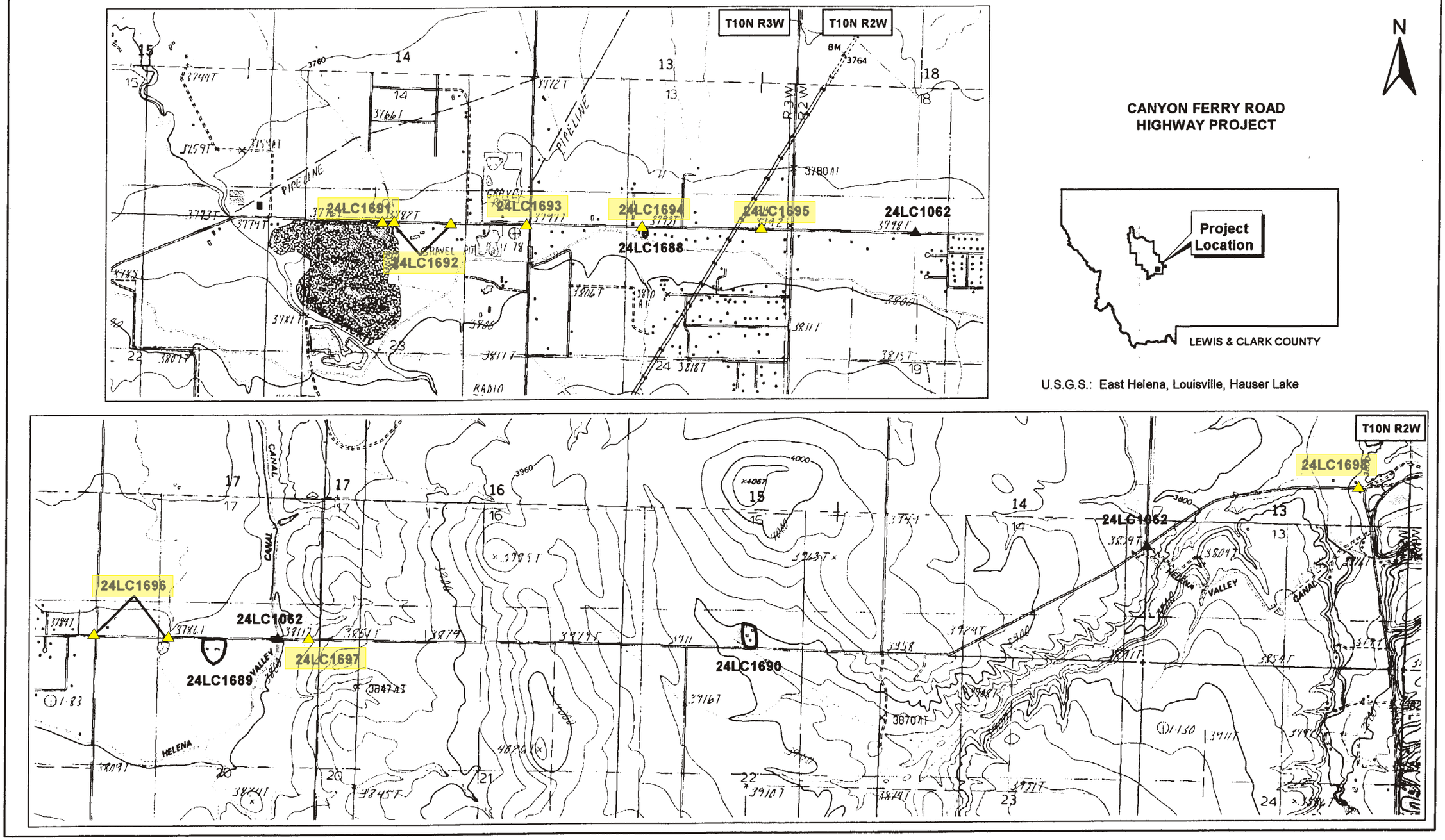

Figure 6. Locations of recorded historic sites along Canyon Ferry Road; irrigation ditches marked by triangles only at points where they cross the road.

AMENDED PROGRAMMATIC AGREEMENT
AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
AND THE MONTANA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE TREATMENT OF HISTORIC IRRIGATION DITCHES
AFFECTED BY HIGHWAY CONSTRUCTION IN MONTANA

WHEREAS, the Federal Highway Administration, Montana Division and Western Federal Lands Highway Division (FHWA), propose to make Federal Aid funding available to the Montana Department of Transportation (MDT) for that agency's ongoing program to construct or rehabilitate highways and to make Federal funding available for the Public Lands Highway Program in the state of Montana, and

WHEREAS, the FHWA has determined that this federally-assisted program may have an effect upon a certain class of properties included in or eligible for inclusion in the National Register of Historic Places and has consulted with the Advisory Council on Historic Preservation (Council) and the Montana State Historic Preservation Officer (SHPO) pursuant to Section 800.13 of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 USC 470f); and

WHEREAS, the Montana Department of Transportation (MDT) participated in the consultation and has been invited to concur in this Programmatic Agreement;

NOW THEREFORE, the FHWA, the Council, and the Montana SHPO agree that the program addressed in this Programmatic Agreement shall be administered in accordance with the following stipulations to satisfy the FHWA's Section 106 responsibility for all individual undertakings of the program.

Stipulations

The FHWA will ensure that the following measures are carried out:

General Notes:

A) The term "Irrigation Ditches" applies to irrigation ditches and ancillary structures such as, but not limited to, concrete ditch linings, intake headgates, overflow structures, flumes and siphons.

B) The procedures in this Programmatic Agreement will be followed without regard to the ownership or length of the irrigation ditches addressed in this Agreement.

1) MDT will assist the FHWA in meeting the compliance requirements of 36 CFR Section 800.4 through 800.6, as applicable, for those highway construction projects affecting irrigation ditchrelated structures that are 50 years or older. For the purpose of this Programmatic Agreement, structures associated with existing roads and built as part of the roadway, such as metal or concrete culverts, will be considered to be features of the roadway and not of an intersecting irrigation system.

2) MDT will assist the FHWA in meeting the compliance requirements of 36 CFR Section 800.4 through 800.6, as applicable, when the affected irrigation ditch has been abandoned, i.e., is no longer operational and operated. In such circumstances, the requirements of Section 106, as implemented by 36 CFR Part 800, will be met whether or not ditch-related structures will be impacted.

3) MDT will assist the FHWA in meeting the compliance requirements of Section 106 of the Act, as implemented by 36 CFR Part 800, for those projects affecting irrigation ditches and associated structures, if any, previously listed on or determined eligible for inclusion in the National Register of Historic Places.

4) When operational irrigation ditches without structures in the construction-impact area will be rechanneled during highway construction, MDT will comply with the following procedures:

   a) Simplified inventory forms employing a format approved by the SHPO will be used to describe the feature. The forms will provide an assigned Smithsonian site number, the ditch's name, legal description, a history and map of the ditch taken from the appropriate Montana Water Resources Survey publication or other readily available published source and MDT's assigned project name and number.

   b) Such ditches will not be evaluated against the criteria of the National Register of Historic Places.

   c) It is understood that determinations of effect, alternative project designs to avoid impact or mitigation of effect (other than continued ditch operation) will not be done by MDT or FHWA.

   d) Irrigation ditches not identified by name in appropriate Montana Water Resources Survey publication will not be considered under any circumstances.

5) The Council and the SHPO may monitor activities carried out pursuant to this Programmatic Agreement, and the Council will review such activities if so requested by a signatory to this Agreement or by a member of the public. FHWA will cooperate with the Council and the SHPO in carrying out their monitoring and review responsibilities.

6) Any party to this Programmatic Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.13 to consider such amendment.

7) Any part to this programmatic Agreement may terminate it by providing, in writing, forty-five (45) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, FHWA will comply with 36 CFR Part 800.4 through 800.6 with regard to individual undertakings covered by this programmatic Agreement.

8) If a dispute arises regarding implementation of this Programmatic Agreement, FHWA will consult with the objecting party to resolve the dispute. If any consulting party determines that the dispute cannot be resolved, FHWA will request the further comments of the Council pursuant to 36 CFR Part 800.6(b). Any council comment provided in response to such a request will be taken into account by the FHWA in accordance with 36 CFR Sections 800.4 through 800.6 with regard to individual undertakings covered by this Programmatic Agreement.

Execution and implementation of this Programmatic Agreement evidences that the FHWA has satisfied its Section 106 responsibilities for all individual undertakings of the program.

This amended programmatic Agreement encompasses the entire agreement between the parties and replaces any agreements previously negotiated regarding this undertaking.

WESTERN FEDERAL LANDS HIGHWAY DIVISION, FEDERAL HIGHWAY ADMINISTRATION

By: James N Hall Date: 7/20/93

MONTANA DIVISION, FEDERAL HIGHWAY ADMINISTRATION
By: DC Lewis Date: 7/23/93

MONTANA STATE HISTORIC PRESERVATION OFFICER
By: Marcella Sherfy Date: 7/29/93

ADVISORY COUNCIL ON HISTORIC PRESERVATION
By: Robert D. Bush Date: 8/16/93

CONCUR

MONTANA DEPARTMENT OF TRANSPORTATION
By: Edrie Vinson Date: 7/29/93

TB:Q:ISB:398.gg